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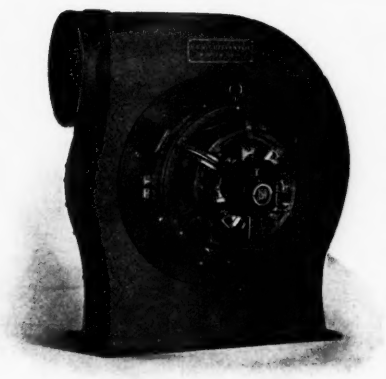

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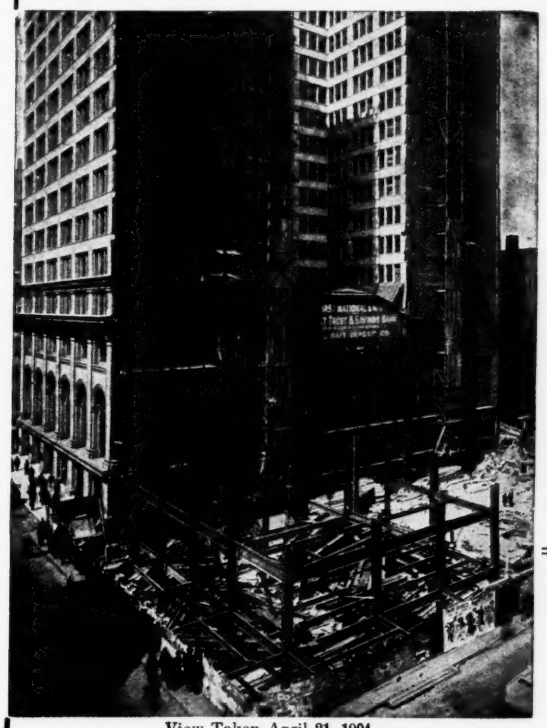

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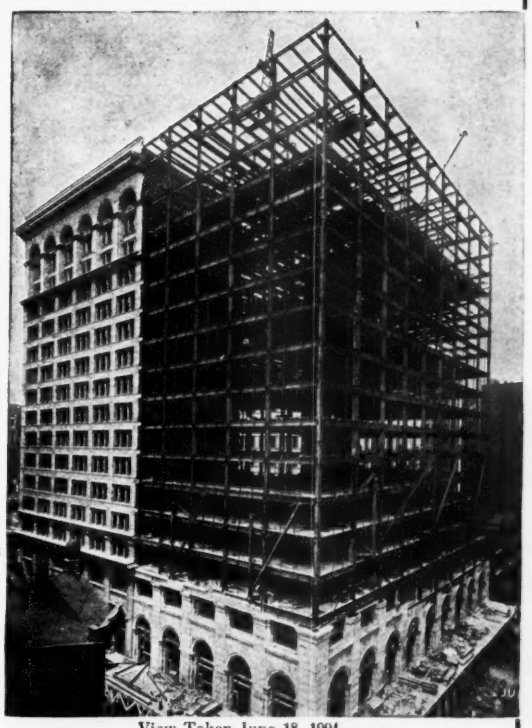

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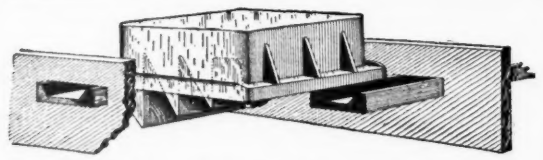

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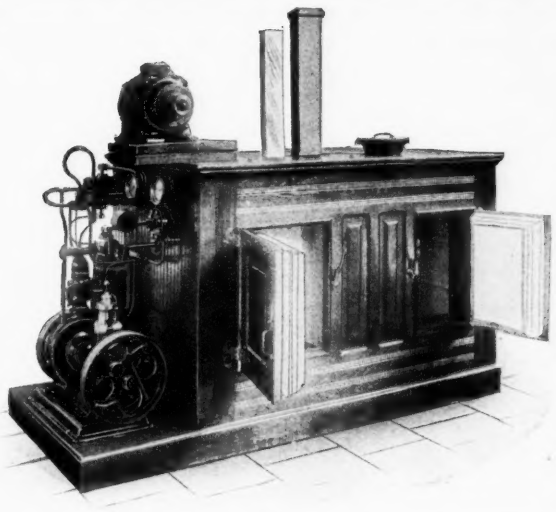

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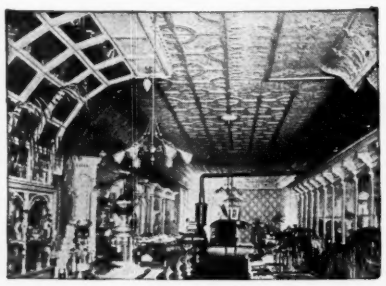

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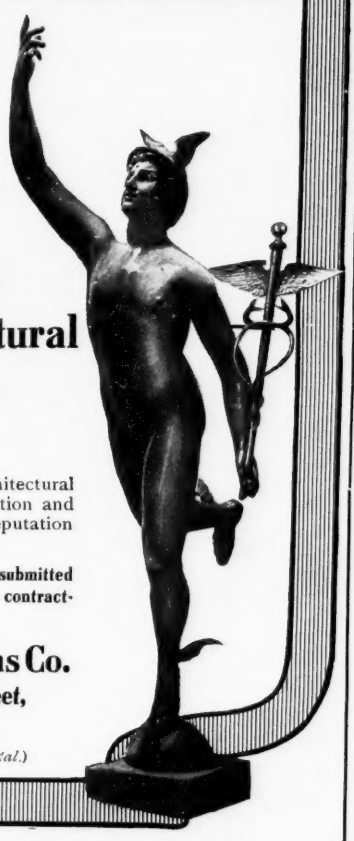

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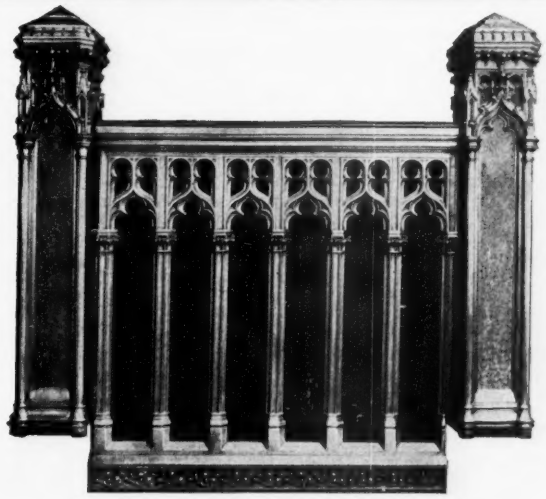

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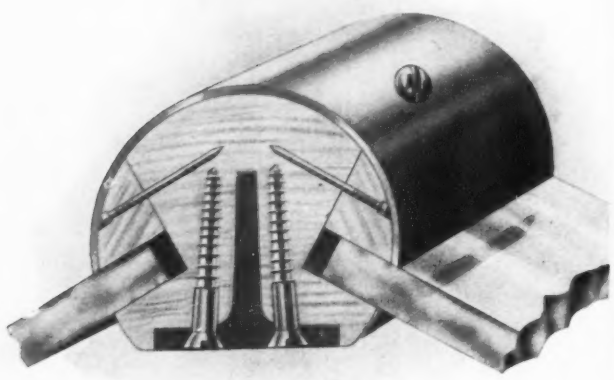

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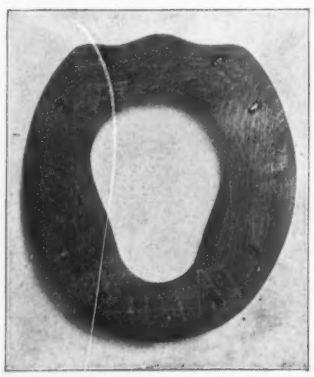

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THE INLAND ARCHITECT AND NEWS RECORD

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NEXT CONVENTION AT NEW YORK, N. Y., 1906.

Seventh Congress of Architects.

The architectural visitor to Europe next summer will have an unusual opportunity to meet leading members of the profession, representative of many countries, and to broaden his knowledge of modern practice among foreign nations. The Seventh International Congress of Architects convenes at London the third week in July next. The subject of the Education of the Public to an Appreciation of Architecture is one of the important topics to come before the congress. It is a subject that has had considerable attention in England and the conclusions reached there will be presented doubtless at the meeting.

Along this line, while not stating this object definitely, the American Institute of Architects has accomplished much in the education of the public in the past year through its unique banquet in Washington last January. This directed the attention of the press and public of the entire country to the aims of the Institute to secure worthy public buildings and foster civic betterments. This has resulted, and will continue to result, in a better understanding by the public of architecture in all its branches.

Another subject for the consideration of the congress is, A Statutory Qualification for Architects. The experience of America with the architect's license laws should be of value in this connection, and it would add interest to the discussion if someone, with full knowledge of the operation of these laws, would forward to the congress a paper with this information. The chairman of the permanent committee for the American section is W. L. B. Jenney. He has taken a very active interest in these meetings in the past, and it is to be hoped that his retirement from active practice will not forbid his continued attendance.

The National School of Architecture.

A movement that promises to be of great and permanent value is being fostered by the Society of Beaux-Arts Architects of New York. The society proposes to establish at New York the National School of Architecture. In the formation of this school it is desired to secure the co-operation of the educational institutions throughout the country to aid in the better education of architectural students, both those who can devote their whole time to study and those who, being employed during the day, have only the evening for instruction. The interest and help already given the efforts of the society in the past by prominent institutions encourage the officers to include the entire country in their plans for architectural instruction under such conditions as shall result in a more general and thorough education of architectural draftsmen.

In this connection it is of especial interest to note that the Royal Institute of British Architects is enlisting the aid of universities of England to extend to the country at large the benefit of their great facilities in advancing the cause of architectural education. The Board of Architectural education of the Royal Institute of British Architects has secured the co-operation of many institutions which are represented on the Board.

Such a school as that proposed by the Society of Beaux-Arts Architects must be necessarily broad and liberal in

scope. It should have the utmost help, not only of educational institutions, but of architects and all interested in the betterment of art and architecture. The Society of Beaux-Arts Architects has shown itself well qualified to inaugurate such a school with every promise of success. It has been for years a powerful factor in architectural education, especially in the East.

It has given without stint of the time and means of its members to promote and encourage more thorough training and higher ideals among students of architecture. From a small beginning a dozen years ago the growth of this part of the society's work has been constant from year to year. Each year a little more has been attempted than before, and so carefully and wisely have the plans been laid that each step has been forward. It is to be hoped that even a greater measure of success awaits the crowning ambition of the society; the permanent establishment of the National School of Architecture.

The Year's Building in the West.

The great improvement in building operations in the West in the past few years has reached its climax in the record for 1905 in Chicago. With no unusual event as a stimulus, in the face of high prices for material and labor, and the retarding influence of one of the most bitter labor struggles in recent years, there was built this year the equivalent of forty-seven miles of single frontage at a cost of $62,500,000. This is only about $1,000,000 less than the total for 1892 when preparation for the World's Fair caused unbounded activity. The rapid change in the mode of living in the city is clearly shown by the amount of building of flats and apartment houses compared with that of residences; the total for flat building was $22,000,000, and for residences only $3,000,000. The comparison is emphasized by the fact that the flat buildings are rented as fast as built. The item of factories and warehouses establishes a record for buildings of this class, and reaches the aggregate of $11,250,000. Other buildings for business uses represent an outlay of $6,500,000. In this great revival in building, Chicago is not alone in the West. St. Louis has had a surprising amount of building as the agreeable aftermath of her World's Fair, which seems to have been an abiding good to the city. Her addition to the building of the year is represented by costly residences, great warehouses and business buildings. In Kansas City also conditions are greatly improved. The city is having great activity especially in domestic work. The situation fully demonstrates the fact that capital does not seek investment in building when prices of real estate and building are low and apparently favorable, but awaits such time as prosperity in business and increase in population create a demand for more building that promises immediate returns on investments. Those concerned in building are to be congratulated not only upon the excellent showing for the current year, but also on the prospect of continued activity for the coming year.

Activity in Architectural Associations.

There is a commendable enthusiasm shown in the proceedings of the architectural societies, national and local. In the American Institute this is shown in the unprecedented preparations making for the approaching convention in Washington, commencing January 8. That it will be a notable gathering and far-reaching in its results is a natural conclusion. The relations of the architects with regard to government architecture are sure to be strengthened. The list of nominations for officers of the Institute for the ensuing year has caused much favorable comment. The local chapters are finding much in local affairs that requires their best thought and efforts. This gives to the meetings a lively interest conducive to strength in the chapter. Good work also is being done by the chapters in increasing the membership of the Institute. No more useful work than this can be done. The younger body, the Architectural League of America, is making an earnest effort to amalgamate the architectural clubs of the country by an affiliation with the national association. This joining of forces for the general good would seem so desirable that few clubs are likely to continue an isolated existence. Thus strengthened the League will have greater power to cope with the education problem of the architectural student, one of the most important and appropriate objects of its body, and the regulation of such architectural questions as are constantly arising. The combined membership of the clubs already joined to the League is very imposing and gratifying. A number of the clubs have weekly meetings well attended, classes in design and drawing are maintained and valuable lectures provided. Perhaps never before have so many profitable competitions been open to the club members. The next annual convention of the Architectural League of America will be held in New York beginning January 31st and ending with the annual dinner of the New York Architectural League. Several important subjects will come before the convention for consideration. The New York Architectural League as hosts can be depended upon for every provision for the convention. It is hoped that there will be an unusually large attendance.

The Education of an Architect.

The ever present controversy in the commercial world as to the best preparation for a business career, has its parallel as to the best training for an architect. One of the leading manufacturers of the West has made an exhaustive investigation to establish his opinion that a college education is not the best preparation for a business career, and not equal in value to a practical training. This resulted in his conclusion that his position was upheld. In architecture for some years past great stress has been laid upon the importance of book lore for the student as against a main dependence upon practical office experience. Latterly it has been more frequently urged that students should be given more opportunities to work out practical problems. From an English source this same tendency to the practical is indicated by the question, Should not an architect be a craftsman? In Prussia the trade and technical schools are regarded so important that the state grants subventions to twenty-two schools of architecture, and the building trades, attended by over 5,000 students. Probably most of our readers will agree that while a liberal education in the arts and sciences and foreign travel are highly desirable as a part of an architect's equipment for his profession, too many years must not be given to this preparation at the expense of practical office work and superintendence. The course outlined in these columns recently by W. L. B. Jenney will have many supporters.

SANITARY ENGINEERING IN THE MODERN OFFICE BUILDING

BY J. PICKERING PUTNAM, ARCHITECT

PART V

THE siphoning action on all these forms of apparatus may be made more severe than is ordinarily found in plumbing by corking up the plunger of our flushing tank which corresponds in this case with the standpipe outlet valve of a bath tub, and also corking up the vent pipe coming from the top of the tank waste so that no air can enter the waste except through the fixture trap to be tested. Though in practice it often happens that house owners will close up the overflow outlets of their fixtures in the fear of "sewer gas" with corks and putty, and snow and frost will frequently close up the vent opening.

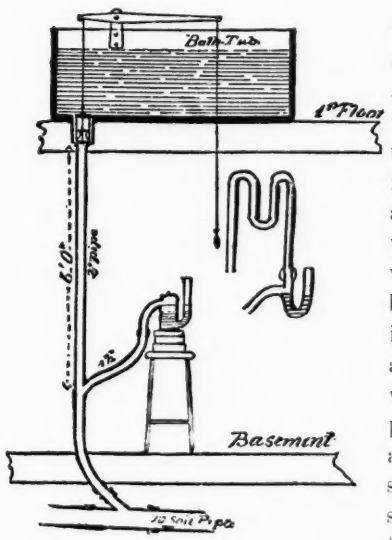

FIG. 21.

SIMPLER FORM OF HYDRAULIC TESTING APPARATUS.

In constructing a testing apparatus it is desirable to so build it as to enable comparative as well as positive tests to be made. That is to say, we should be able to show not only what happens to traps when strains are brought to bear upon its seal as severe as any likely to be met with in ordinary plumbing work, but also to ascertain by the severest possible strains the comparative resistance of different systems, and to discover if anti-siphon traps can be constructed which are capable of resisting the most powerful strain which can be brought to bear upon them by any form of apparatus we are able to devise, for by this method we shall be able to determine the exact degree of superiority of the simple anti-siphon system over the complicated "back vent" system.

Fig. 21 shows a still simpler form of apparatus used by the writer at the same time with the more elaborate one already described under Fig. 19.

The siphoning action produced by the discharge of this tank is sufficient to destroy in one second the seal of a 1¼-inch S trap of the ordinary construction, having a vent opening at the crown, of the same size with the bore of the trap (1¼ inches) and connected with a 1¼-inch ventilating pipe of smooth new lead sixteen feet long. It will also destroy the seal of an ordinary S trap having a vent opening at the crown three-fourths of an inch in diameter *without any vent pipe attached thereto.* But it can not siphon out the seal of the common pot or drum trap of very large diameter so long as it is kept clean. The tank in this little apparatus had a capacity of 100 gallons. The waste pipe was two inches in inside diameter and only six feet long to the trap branch. The outlet plug was large enough to fill the trap "full bore."

The tests on siphonage evaporation, etc., for the Boston Board of Health and at the Massachusetts Institute of Technology were made in 1883, 1884 and 1885, and published in architectural, engineering and plumbing papers both here and abroad, and the results, as tending to disturb the existing order of things, produced considerable comment and criticism. Doubts were expressed in certain quarters, not always politely, as to the reliability of the tests, and the demonstrations had to be frequently repeated in various cities to satisfy the skepticism of the incredulous.

A very determined opposition to the simpler plumbing recommended came from parties who imagined, though wrongly, that their business interests would be injured by the change. A striking illustration of this is found in the episode of the famous master plumbers' tests at Worcester, which I give here to show the importance of excluding the personal element from the discussion and of having to this end the entire matter put as soon as possible into the hands of a proper expert commission for unbiased investigation and report.

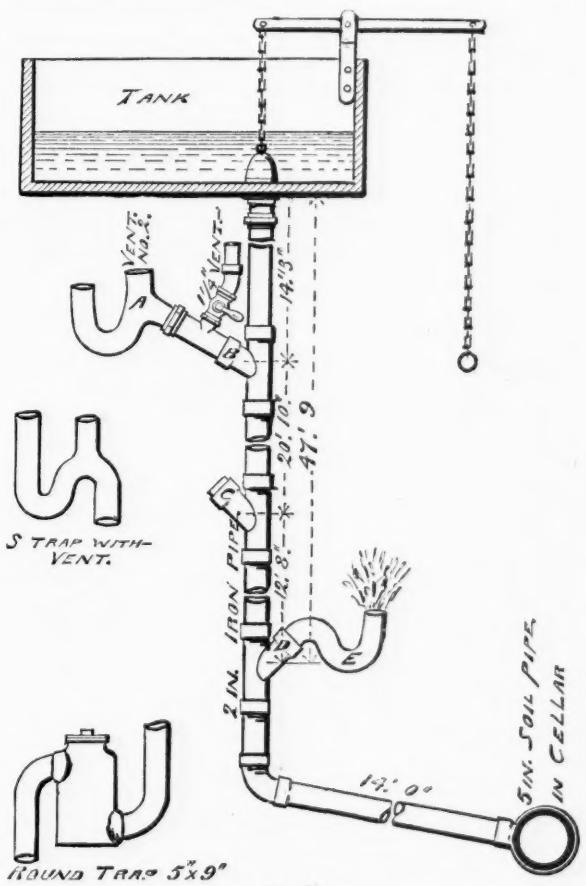

FIG. 22.

APPARATUS USED AT THE "WORCESTER TESTS."

S-trap A had a vent as marked Vent No. 2; all other traps were ventilated by the stop-cock attached to Y-branch B, where all traps were tested.

With Vent No. 2 open and stop-cock closed, it was not possible to remove any water from the S-trap, but with Vent No. 2 closed and stop-cock open, the seal of the trap was broken. S-trap with vent shows the form of trap which the committee recommends.

Trap E was placed on Y-branch D to show back pressure, but Y-branch D, as well as Y-branch C, was closed during experiments on syphonage.

Among the writer's lectures was one at Worcester in response to an invitation from the Worcester Natural History Society. The apparatus was totally different from that hitherto used, but the results were the same. The vented S trap lost its seal instantly by tests which left the seal of an unvented drum and other anti-siphon traps unbroken. These results were again published and the demonstrations established beyond any question that the complicated system required by the law was far inferior to the simple one which the law prohibited.

A few days after this lecture at Worcester, some of the plumbers of that city made some opposition public experiments on siphonage (Fig. 22) and a descriptive report was afterward published, worded in such a manner as to give an incautious reader the impression that the writer's statements were by their tests contradicted, whereas they were in fact fully corroborated by them. What was published as the "official" report reads as follows: "A 1¼-inch S trap was next tested. With the vent pipe open the seal of this trap was not disturbed, even after three discharges in quick succession from the tank. But with the vent pipe closed, the first discharge emptied the trap." This was all the official report said about the S trap. The sanitary and plumbing journals, apparently interested in perpetuating the complication of plumbing, spread this report all over the country, and the writer's previous statements were in consequence of it largely discredited, and some of his experiments were even ridiculed by persons who had not looked carefully into the matter. State boards of health and sanitary engineers were referred to the "Worcester tests" to show the great siphonage resisting power of a vented S trap and the wisdom of the trap vent law.

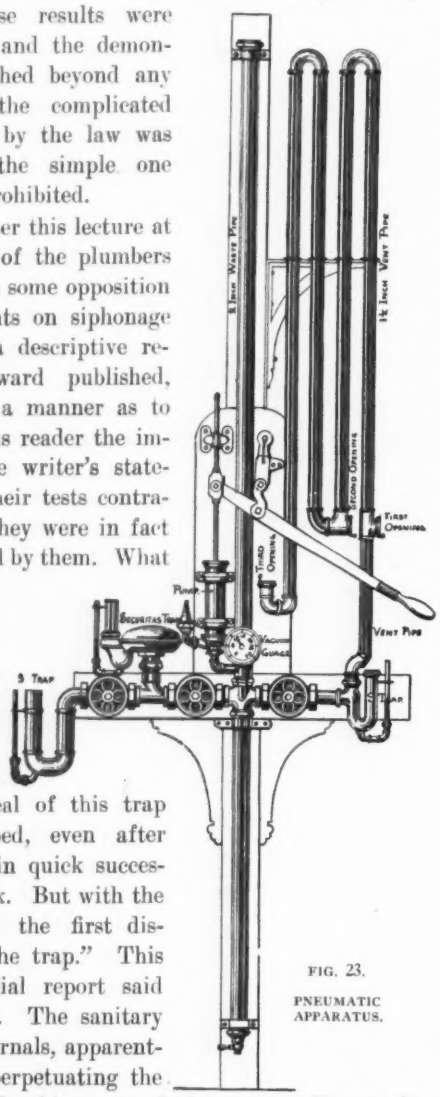

FIG. 23.
PNEUMATIC APPARATUS.

Even so learned a writer as James C. Bayles, the editor of the *Metal Worker,* was completely deceived by this report, and in his paper on sanitary codes, read before the New Jersey State Sanitary Association, he wrote: "It is also well to remember that the Worcester tests, the latest and most trustworthy series of trap experiments, show that a properly vented S trap is safe against the loss of seal by siphonage even under conditions ingeniously devised to create a vacuum such as is never found in plumbing practice."

Now, the fact of the case is, that the *vented S trap instantly lost its seal under a single discharge from the tank,* and by consulting the full (unofficial) report of the chairman of the committee of plumbers who made these famous tests this will be seen (See *Sanitary Engineer* for September 10, 1885, and other contemporary technical journals). The fact is stated in fine print under the cut of the apparatus which accompanied the chairman's report (Fig. 22).

In the "official" report the very important fact that *no vent pipe at all* was used on the S trap, when it was described as holding its seal, was omitted. In other words, this trap was not "vent piped" at all, but simply had a large hole in its crown, a condition of things evidently impossible in plumbing.

All the other traps had a 1¼-inch vent pipe ten feet long attached to the opening in their outlet pipes. It is the friction of the air against the sides of the vent pipe which deprives it of the power of protecting the trap against siphonage.

Thus, in the "Worcester tests" it was shown by the master plumbers themselves that a fully vented S trap lost its seal in a single discharge, and that more than one form of unvented anti-siphon trap retained its seal under frequent repetitions of the ordeal. Now, I do not by any means assert that those who were responsible for the "official report," whoever they were, intended for a moment to produce an incorrect impression. They simply made a mistake which should be corrected in the interests of science and of the public.

As soon as the reprints of this report began to appear in the sanitary papers the writer at once endeavored to correct the erroneous impression they produced, and only

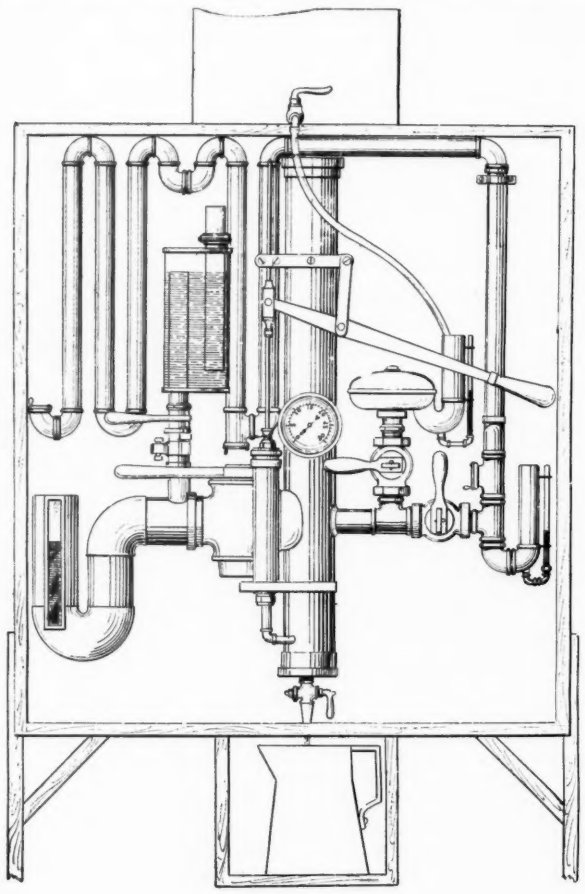

FIG. 24.
PNEUMATIC APPARATUS.

succeeded after a most strenuous campaign. Error had flown several times around the world, while truth had barely succeeded in crossing the threshold. Nevertheless

the correction was finally published in some of the leading sanitary papers, though rather grudgingly, as the writer thought at the time, while the majority saw their mistake and kept a discreet silence.

Such lessons as the above warn us to place the investigation of the plumbing laws in the hands of a commission known to be absolutely unbiased, or, rather, to have no reason for bias. Each state board of health should be equipped with some simple form of testing apparatus like that shown in Fig. 21 or like the pneumatic apparatus recently devised by the writer and shown in Figs 23 and 24.

The latter may be made by any plumber or coppersmith without difficulty in a few days. The writer will gladly furnish, free of charge, any information as to details of construction which such boards of health or authorized commissions may desire. A very considerable economy can be realized if several duplicates of the apparatus are made at the same time, and application has already been made for such duplication, under the writer's supervision, to be delivered at the actual cost of manufacture, without charge for the writer's supervision or original design.

In all the demonstrations in siphonage of which I am aware up to the present time, the tests have been made by hydraulic apparatus, such as have been herein exemplified. But of late I have found that a pneumatic apparatus permits of a much greater accuracy of determination, especially in making comparative tests. By using a suction pump, as shown in Figs. 23 and 24, we are able to reproduce at will any degree of rarification in the soil pipe desired to correspond with the varying conditions encountered in plumbing practice as well as strains far beyond the usual ones for the purpose of comparing different traps and systems of plumbing with one another, and a vacuum gauge enables us to apply precisely the same degree of vacuum to every trap tested, so that results of great accuracy and scientific value are obtainable.

Of course, it will be objected at first thought, that the pneumatic test does not reproduce in actual form the precise phenomena encountered in ordinary plumbing work, but a little reflection will show that the results are identical so far as they affect our inquiries. The agency which produces siphonage is the partial vacuum in the soil pipe, and this rarification is effected by the rapid movement of a piston. Whether the piston be in the barrel of a pump or whether it be in the soil pipe itself is altogether immaterial so far as concerns the effect of the partial vacuum on trap seals. The pneumatic apparatus possesses the great advantage over the hydraulic of enabling us to vary the force of the strain applied to the traps to any extent desired, while only one degree of rarification can be obtained by the falling water plug in any one plant. The siphoning action in both cases is extremely rapid, almost instantaneous.

In the case of the falling water piston, the action takes place in the flash of time required for the piston to pass by the small mouth of the branch waste pipe serving the trap. A fraction of a second suffices for this.

(To be continued.)

STEEL FRAMES FOR DWELLINGS

BY G. H. BARBOUR, ENGINEER

STEEL frames for dwellings have not been an impossibility, but would not be economical, composed of the sections now rolled.

The drawings in the illustration sheets of this number illustrate a type of construction economical, durable and structurally correct, based on a special line of shapes 6 inches deep and under, rolled to ⅛-inch thick, which could readily be worked in the field with no other equipment than a hack saw, breast drill or hand-lever shear and punch. Shapes somewhat similar have been rolled abroad, but nothing approximating them has been manufactured in this country, though if a demand for them developed the steel makers would be quick to take them on, as they are a desirable rolling proposition.

To be easily obtainable by the trade, they should be manufactured in lengths varying by 2 feet, like lumber, or carried in stock at the mills and centrally located warehouses in double carload lengths, which could be cut to order with practically no delay. The beams weigh from 3 pounds for a 3-inch to 4.28 pounds for a 6-inch, against 5½ pounds and 12¼ pounds, respectively, in the present standard sections, and the dimensions, weights per foot and properties for both beams and channels are set forth on the drawings. The coefficients given are for a fibre stress of 16,000 pounds per square inch. The flanges of the 3-inch, 4-inch, 5-inch and 6-inch beams are all 1¾ inches, so fixed as being about the least width practicable for ⅜-inch and $\frac{7}{16}$-inch bolts which are contemplated as fastenings. The channel flanges are all 1-inch. The connections are to be similar to those used in ordinary structural work, the difference being in the thickness of the metal and the size of the bolts. Rivets driven cold could be substituted for the bolts.

For the particular structure illustrated, 4-inch studs and 6-inch joist 2-feet 0-inch on centers are contemplated, the studding to be covered on both sides with metal lath and plaster, the ceilings to be the same and the floors composed of regular ⅞-inch tongued and grooved flooring on 2-inch wood strips clamped to the steel joist. If a brick exterior is desired, it could be handled similar to a brick veneer on a wood frame, either by clamping to the studs or to the exterior lath and plaster. As clapboards, shingles or tile imitations of clapboards and shingles could be attached in a similar manner, the construction is susceptible of a variety of exterior expressions.

From an engineering standpoint, the design might be criticised for the lack of wind bracing, but a stiff metal lathing securely wired to the studs and covered with hard plaster is deemed sufficient, if care is taken to securely brace the frame diagonally during erection.

The steel frame shown is for a structure 40 feet wide, 33 feet deep and 22½ feet high to the eaves, and would weigh approximately 33,750 pounds, which at 4 cents per pound, erected and painted, would represent $1,350, which would compare favorably with a wooden frame for a structure of the same size.

THE PLANNING OF HOSPITALS

BY T. M. CLARK, ARCHITECT

PART III

ALTHOUGH it is true that, in dwelling houses, a central position for a chimney does much to insure a steady draught in it, the ventilation of such buildings as hospitals by flues, heated by open fireplaces or otherwise, is, at best, uncertain, inefficient and costly, as compared with the precision and efficiency of fan ventilation; while a chimney-stack in the middle of the ward obstructs the movement of air from the windows across it, renders supervision more difficult, and gathers dust, besides increasing the width and expense of the ward building, and the labor necessary for keeping it in order.

Still less justifiable than the widening of the ward to accommodate a ventilation stack is the undefined fancy which often demands, in hospital wards, a central passage twelve or fifteen feet wide, for no assigned reason. Such passageways are usually soon occupied by tables covered with books, vases of flowers, and other contributions of the charitable, which are worse than useless in that position, and add very much to the labor of the servants whose duty it is to keep every inch of the ward floor in a condition of immaculate cleanliness.

Except for the possible advantage of slightly greater privacy, every unnecessary addition to the width of a hospital ward is objectionable. Whatever may be the perfection of the system by which fresh air is forced in and withdrawn, by fans or otherwise, the better part of the ventilation of modern wards is secured by means of the windows in the side walls, from which currents of air, directly from the outside, pass across the room from one side or the other, according to the direction of the wind. Only these currents from the windows can usually have force enough to sweep away the strata of foul air which cling to the walls and ceilings, and it is the fresh, cool air that they bring which does most to restore exhausted nervous force and promote sleep. It is obvious that every needless increase in the width of the ward weakens materially, by diffusion, the efficiency of these currents, at the same time that it increases the cube of stagnant air to be moved, and the extent of surface to be swept clear of atmospheric contamination. Next to the ceiling, particularly, there is usually, even in rooms with the best artificial ventilation, a stratum of hot, foul air, which affects, by diffusion, the atmosphere below. The currents from the opposite windows of hospital wards, which are generally open at the top in all weathers, dissipate, as nothing else can, this noxious stratum, and everything that reduces their effect is objectionable.

Another consideration which should not be lost sight of in determining the width of wards is that of lighting. Architects remember, better, perhaps, than doctors do, that the intensity of illumination from a window or other source of light diminishes as the square of the distance from it. The time when hospital physicians used to board up their windows is now long past, and a clear, steady light is generally recognized as soothing to the nerves, and cheering and comforting to most sick persons. A simple calculation shows that the light in the middle of a room of the accepted minimum width of twenty-two feet is nearly twice as intense as that in the middle of a ward thirty feet wide, and the cheerfulness and cleanliness of that part of the ward is likely to be proportionate to the illumination.

Whether the axis of a hospital ward of the usual shape should run north and south, or east and west, or in some other direction, is also a point on which opinions differ. Of late years it has been very common, both here and in Europe, to build wards with the longer axis running north and south, or nearly so, and to attach to the south end a "sun-room," often of semi-circular or semi-octagonal shape, so as to receive sunlight all day, which is supposed to be devoted to the cure of nervous patients, for whom exposure to sunshine is agreed to be beneficial. In England, where the sunlight is comparatively feeble during most of the year, this may be an excellent arrangement; but it is doubtful whether it is equally so in this country. That nervous patients should have an opportunity to sit in the sunshine is undoubted, but whether the end of a general ward is the best place for them to do so is another matter. It is now considered most advantageous for them to expose themselves naked to the sun's rays, and to the fresh air also, if possible; and the end of a general ward, whether entirely cut off from the ward proper, or opening into it by wide glass doors, as is more common, is evidently a less suitable place for such treatment than a separate enclosure, on the roof or elsewhere. As a matter of fact, the sun-rooms at the end of wards, perhaps for lack of nervous subjects, are very often utilized as parlors for convalescents, or even as store-rooms, which could just as well be arranged elsewhere, without sacrificing, as sun-rooms at the end of the wards do, not only the southern sunshine in the wards themselves, but much of the longitudinal ventilation of the room, which is a matter of great importance.

Apart from the opportunity which it affords for enclosing the end of the ward as a sun-room, it may be doubted whether the north and south orientation of wards is so advantageous for general hospitals, as is commonly supposed. The theory on which it is usually advocated is that the windows, under this orientation, facing east and west, one side of the ward receives the morning sun and the other side the afternoon sun, so that both sides are sunny during different portions of the day. All this is undoubtedly true—so true, in fact, that, in many hospital wards with windows so directed, the shades are drawn down, or partly down, during a great portion of the day, and permanent blinds, or shutters, are often to be seen, which have been put over the upper part of the windows, "to keep out the glare." Evidently, a window with permanent blinds over it is not of much use for the admission of sunshine, however valuable it may be for other purposes; and some hospital wards, planned with north

and south axis expressly for greater sunlight, are, in practice, almost gloomy.

The explanation of this is, evidently that, as the sun in the morning and evening is near the horizon, the rays entering through east and west windows dart entirely across the room, shining in the eyes of the helpless occupants of the beds on the other side. The annoyance which the patients on one side suffer during the morning those on the other side endure in the afternoon, until it becomes necessary either to expend a considerable amount of labor and attention in pulling down shades, which exclude air as well as light, or to put on blinds, which, if not expressly intended to be permanently closed, are often so in practice, on account of the labor and attention involved in opening and closing them to suit the position of the sun.

Some, at least, of these annoyances are avoided in wards with east and west axis. In these, it is true, little or no sunshine enters the windows on the north side, but it pours all day through those on the other side, and in a less troublesome fashion than where the windows face east and west. Supposing the top of the windows to be twelve feet from the floor, the greatest distance to which the sun's rays can penetrate into the room at noon is about twenty-four feet at the level of the floor. Supposing the ward to be twenty-two feet wide, the sunshine, at noon, will thus fall upon the lower portion of the north row of beds, but this will be only in winter, when it will be welcome; and, during the summer, when the course of the sun carries it much higher above the horizon, its rays will penetrate to a much shorter distance into the room, not reaching, at noon in midsummer, the middle of the floor. It is true that, before and after noon, the sunshine, entering obliquely, will extend farther into the room, and may even fall upon the faces of the patients in the north row of beds, but it will fall upon them at such an angle that all but the weakest ones can easily avoid it by turning their heads, and those who can not turn their heads will suffer much less from it than from rays shining perpendicularly upon them. On the south side of the room the sun's rays will, in the morning and evening, fall upon the foot of the south beds, to an extent determined by the depth of reveal of the windows, and other conditions, but hardly in such a way as to cause annoyance; and north and south windows, in wards, can thus, practically, be left unshaded all the year round. This is a great adantage, not only in promoting the cheerfulness of the ward, but in avoiding the use of shades and blinds, both of which are incurable dust-collectors. The apparent disadvantage of the east and west orientation, which is rather apparent than real, is that half the beds are on the north, or cold side of the room, while the other half are on the south side; but, if the ward is not too wide, nearly as much sunshine falls in winter on the north beds as on the south ones; and, with heating apparatus properly designed, there is no practical difference in the temperature on the two sides of the room. Of course, the sun-room at the end of the ward is eliminated by this orientation, but there is no reason why a sun-room, if desirable, should not be projected from the south side of the ward; and the group of east or west windows, as the case may be, which replace the sun-room at the end of the ward, will, perhaps, form a sufficient compensation for the possible loss of space for one bed involved in putting the sun-room at the side.

The best orientation for wards will, however, depend very much on the conditions of particular cases. In surgical hospitals especially the small private establishments, it is now a common practice to construct balconies, or verandas, to which the patients can be conveyed in their beds, and left, often through the night, as well as the day, to inhale the free out-door air. In adapting such verandas, of sufficient size to accommodate even half the patients, to hospital wards of the ordinary shape, the natural arrangement is to place the ward with its axis running east and west, and build the veranda along its south side, where it will be open to the sun, and sheltered from cold winds; and one or two important military hospitals have been carried out in this way. Whether it is desirable to shade, either wholly or partially, the south windows of the ward proper by such an arrangement will be considered later, in treating of sanatoria for tuberculous patients, in which the verandas form a feature of paramount importance. For the present it may be enough to say that, besides surgical and military hospitals, many general hospitals have, of late, added verandas to their ward accommodation, so that architects of hospitals, particularly where children or surgical patients are to be received, should come to an early understanding with the medical direction in regard to providing them, the proper planning of such accessories, so as not to cut off light or air from the wards, being a much more difficult matter than is commonly supposed.

Together with the width, the length and the orientation of the ward, proper, must be considered the height. It has been said by very high authority that, in studying the artificial ventilation of such rooms as hospital wards, any surplus height over twelve feet should be neglected, the movement of the air above that point being too difficult and expensive to be taken into consideration; and, for the best natural ventilation, by means of windows in opposite sides of the wards, a height of not more than twelve feet offers the advantage that the windows, which should, in every hospital ward, be carried to the ceiling, are not so high as to be unmanageable. It is usual, where wards are more than twelve feet high, to reduce the sashes to manageable dimensions by putting a transom in the window frame, two, three or more feet below the ceiling, and arrange a pivoted or hinged sash above the transom, with ordinary sashes below it. Although this disposition is favored by many physicians, the transom sash has the disadvantage of collecting dust, and retaining it in a rather inaccessible position, and of interfering with the window shades. It is true that, if the transom sashes are hinged at the bottom, and open inward, the air which enters through them is deflected against the ceiling, and serves to sweep it clear of the atmospheric foulness, at the same time that it is prevented from blowing on the patients; but these advantages are, perhaps, of more importance in a dwelling-house, or a school room, than in a hospital ward, and it is doubtful whether any arrangement is, on the whole, preferable to the ordinary double-hung or "guillotine" sash extending to the top of the ward, and made so light, and so well counterbalanced, that the nurse can readily handle either portion of it. If the exterior of the window is slightly sheltered from rain by a hood, or cornice, or even by a deep reveal, the upper sash can be kept partly open in almost all weathers.

(To be continued.)

HOW TO BECOME AN ARCHITECT

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IN answering the question "How to Become an Architect," I have chosen to confine myself to one part only of the question, that, namely, of the educational preparation of the architect for entrance upon his profession. The first step toward becoming an architect is to decide what sort of an education is necessary, and this is the question I shall try, in a very brief way, to answer. The ideal education for the architect is an ideal that can never be realized. So many and so varied are the kinds of knowledge exacted of the modern architect that a lifetime is insufficient for the complete mastery of them all. By the time the ambitious student, beginning his studies in early life, had successfully completed the entire course and was ready to begin practice, he would also be ready for the grave. No practitioner can ever attain complete proficiency in all branches of his profession, even in a long life of activity accompanied by constant study; much less can the student, no matter how admirable the school and the course of study, complete his education before he begins his professional life. Hence any course of study, any plan of architectural education, must be laid out upon a basis of compromises and omissions. Everything that can best be learned by the actual routine of the office—within its own field the most admirable of schools for the wideawake man who knows how to profit by its opportunities—must be left to the office to teach him, and among the still almost countless subjects in which proficiency is desirable some must be emphasized, some passed over but lightly, the rudiments only being inculcated; and many must be omitted altogether. So far as the formal teaching of the schools is concerned, it can only lay the foundations and teach the student how to build upon them. The student must himself erect the superstructure, by incessant observation, reading and study; by travel and by practice; by all the means which his subsequent career may offer him for self-culture and improvement.

Just because any scheme of architectural training, whether in a school or by home study, must be thus fragmentary and partial, there is wide room for diversity in the professional curriculums of different schools without sacrifice of efficiency or real inequality of training. Each will emphasize some subjects which others deem less important, each omit some things which others insist upon. The real test of the value of each system is not what it enables the student to do the first month after he has completed the course, but what it enables him to do five years later. One system may turn out clever draughtsmen, who will always remain merely clever draughtsmen. The graduates of another may be far less clever as draughtsmen, on graduating, and yet become the promising architects of the next decade and the leading architects of the following one. The second is the better school. It has laid broader foundations, and taught its pupils better how to build thereon.

The young man who is contemplating the study of architecture as a profession sees before him, apparently, two avenues of approach to the final goal: one through the office, that is by a course of apprenticeship; and one through a professional school of some sort. In reality there is but one, for no one can attain a mastery of the profession by either means alone. Whichever he enters first he must supplement by the other, and it makes little difference which he enters first. And if in opposition to this claim that both are necessary, you cite the example of distinguished architects who have never been to a professional school, I answer that these are the men who have made their whole career a school, supplementing the routine of the office by the hardest kind of study through long years. Moreover, these are the very men who, conscious of their own deficiencies and of the tremendous cost in time and energy of the learning they have acquired, are often the most earnest advocates of a thorough course of study in a first rate school.

In any course of education there are two ends in view—knowledge and discipline—the inculcation of facts and formulas, and the training of the mind in the use and application of the information so acquired. A diligent reader may acquire information from books, but discipline requires the teaching, example, and guidance of competent instructors, beside laboratories, libraries, draughting rooms and the paraphernalia of a well-equipped institution. At least, these make the discipline far broader and more efficient than any single private instructor or *atelier* can make it, while they also communicate information with a fulness and thoroughness impossible with home study, correspondence teaching, or private instruction. By long experience, by constant striving after the highest results, they have learned how to communicate knowledge and what knowledge, in each branch, is most essential; while the contact of student with student, the friendly emulation and constant interchange of ideas in a school, make the acquisition of knowledge as well as of discipline, doubly efficient and stimulating.

By all means, therefore, let the young architect go to a school of architecture; to the best school he can find, preferably in a large city where his whole environment will help to educate him professionally. The concentration of his entire strength for a few years upon the business of professional study will make that study doubly valuable and in the end effect a great saving of time. Concentrated energy is always more economical and efficient than divided energy. The system, regularity and thoroughness of the school training are extremely valuable elements in the formation of the habits which will dominate his after life. Any school of architecture is better than no school; the best school is the one which takes the broadest view of what the architect should be and know, and trains him for it by the strictest discipline and by enforcing the highest standards.

After the school course, or before it, if the student begins his office training so early that his mind will be still plastic when he enters the school, comes the apprenticeship of the office. The school graduate, when he first begins this apprenticeship in the office, finds it new and strange. All his theoretic knowledge and his long years of discipline seem at first of no account whatever. He is a novice, a freshman in office ways. For a month or two he hardly earns his salt. But if his schooling has been

sound he will before long "find himself," and every day in the office will become more and more profitable to him, and he to the office. He finds himself in a new school, indeed, but in one in which, more and more, his earlier schooling proves of value. In a year's time he has distanced all the novices who have not had the advantage of such training, and in two or three he becomes not only a most valuable and useful draughtsman, but in a very true sense, an architect. He is well equipped for independent practice, should the opportunity present itself.

If, on the other hand, he has begun his studies with an office apprenticeship, his advancement has been much slower. After two or three years he begins to appreciate the limitations of mere office training. If he then enters the school he finds himself at first indeed a novice, in a new and strange atmosphere, but his years of office work stand him in good stead. They strengthen greatly his grasp on certain parts of his course of study and his appreciation of the value of others. Draughtsmen are very apt to be the most enthusiastic students in a professional school. On graduating from it they stand nearly or quite where they would have stood at the same date had they taken their schooling first and their office work afterward.

But even the school and the office can not suffice to complete the architect's training. The studies of the school have given him, after all, only rudiments, introductions to various fields of useful knowledge, beginnings in various kinds of intellectual and artistic training in which the ambitious architect will certainly desire and need further advancement. This he must accomplish chiefly by reading and travel. It is important to cultivate the habit of systematic reading, not merely of architectural works, but of general literature. The architect should be, of all professional men, the broadest in culture because his profession commands an outlook upon more and wider fields than any other. He is fortunate who has had the advantages of a college course, or of two or three years in college, before entering the professional school, who knows something, even a little, of the glories of Homeric verse, of the elegance of the Latin writers, of European history, of philosophy, of political science. It is an excellent plan to read a little poetry every day; to have some acquaintance with Shakespeare, with sonorous Milton, with Dante, with the sublime poetry of the Hebrews. All liberal culture tends to purify the taste, besides opening to the mind new sources of the keenest and highest enjoyment.

It is to be hoped, indeed, that the entire course of study, in and out of school, has tended to cultivate the taste. But the education of the taste should not stop with the school and office apprenticeship. If possible, the architect should travel, seeing with his own eyes the masterpieces of his art, forming his own judgments upon them, undergoing their silent but powerful influence, striving to master the secret of their beauty. He should visit as many as possible of the picture shows and art museums of his own city and country, whether he goes abroad or not, to keep his mind and taste open to the influences of the best things in all the arts.

I believe, also, in occasional participation in competitions in design, especially sketch problems, even after the architect is engaged in independent practice. It is a good thing, now and then, to give wing to the imagination upon purely imaginary problems, unvexed by computations of cost and the limitations of purses and party walls. The Society of Beaux-Arts Architects is doing a good work for young draughtsmen in furnishing them with excellent design-problems to work upon; but I believe the older architects might well, once in a while, arrange to undertake problems of a little different character, larger in scope but requiring less time to work out, with advantage to themselves and to their clients.

There are many who can not attend a professional school. For them, however, all the other means of education I have indicated are wide open. And I am quite sure, also, that the number is small of those who can not compass the attainment of the school training, if they are really determined to seek it. The man who has to earn his own way through the school may have a long and hard fight to do it, but it is well worth the struggle. It may take him six years to cover a course that another completes in four, but the extra two years have also counted in his training. Such self-made graduates are among the most stalwart and influential men in the profession. Our schools of architecture are all democratic in spirit, and no man is looked down upon because he is earning his living and making his own way. For the man who is determined to get to the top, the best training is none too good, and is sure to be well worth all it has cost to win it.

Mr. Glenn Brown, secretary of the American Institute of Architects, has had the honor of election as an honorary corresponding member of the Societa degli Ingegneri e degli Architetti Italiani, in Rome, Italy, as having been the author of the "History of the United States Capitol."

ASSOCIATION NOTES.

FAIRMOUNT PARK ART ASSOCIATION.

The thirty-fourth annual meeting was held Monday evening, December 18th. Mr. Frank Miles Day delivered an illustrated lecture on "Some Suggested Improvements to the Plan of Philadelphia." Mr. Day presented a comprehensive and well studied plan for the betterment of the city.

BROOKLYN CHAPTER, A. I. A.

The recent election, one of the liveliest in its history, resulted in the selection of the following officers: President, F. H. Quinby; vice-president, A. Mackintosh; secretary, B. S. King; treasurer, Henri Fouchaux; surveyor, S. W. Dodge; directors, I. E. Ditmars, J. M. Hewlett, Charles T. Mott, A. G. Thomson, J. J. Petit, W. E. Parfitt, A. J. McEntee and A. F. Buys.

CHICAGO ARCHITECTURAL CLUB.

There is much activity in club affairs. Excellent programs are arranged for the Monday night meetings. Recent subjects presented are: Etchings and Engravings, by James L. Kelly; Wit and Wisdom of the Crayon, by W. M. R. French; Sprinkler Equipment, by O. J. Dorn. A series of Sketch Nights was inaugurated on December 11th, which promises to be of much interest. M. M. Levings has been selected to fill the unexpired term of Mr. Kable as secretary.

CHICAGO ARCHITECTS' BUSINESS ASSOCIATION.

The attention of the members at the November meeting was directed to an "innocent" resolution presented to the city council and referred to a committee. This provides that no architect shall be allowed to collect on drawings not officially stamped by the city building department. As this would be a gross injustice to the architects, the Association appointed a committee to present the architects' protest to the proper city authorities. There was a hopeful feeling that a more favorable resolution could be secured.

WASHINGTON STATE CHAPTER, A. I. A.

Delegates from the principal cities of the State were in attendance at the annual meeting held in November. The officers elected for the ensuing year were: President, A. W. Spalding; vice-president, George W. Bullard; secretary, John Graham; treasurer, James Schock. The subject of a civic center for Seattle was broached and resolutions upholding the park commissioners adopted.

CINCINNATI CHAPTER, A. I. A.

At the November meeting was begun a series of discussions which will extend through the winter, and will include topics of public interest. The first one was on the subject of the local canal, which runs through the city, and is extremely disagreeable at all times, besides being very unsightly and otherwise objectionable. Other organizations were stimulated to further discussions on the subject. At the December meeting will be discussed the question of "Sewerage for the Suburbs."

ILLINOIS CHAPTER, A. I. A.

At the November meeting President Irving K. Pond presented a paper on the esthetics of architecture with especial reference to originality of expression. This was followed with appreciative discussion. The topic for the December meeting was the approaching convention of the American Institute of Architects. Such information as had been received from the national secretary was considered. The delegates from the chapter to attend the convention are George Beaumont, Peter B. Wright, W. Carbys Zimmerman, Allen B. Pond and Irving K. Pond. The claims of Chicago for the next convention will be strongly urged by the chapter. It was voted to postpone the January meeting till January 22d.

BOSTON SOCIETY OF ARCHITECTS.

In protest of the summary action of the acting mayor of Boston in removing the school-house commissioners, the Society passed the following resolution:

"Resolved, That the Boston Society of Architects, familiar with the work of the board of school-house commissioners since its establishment in 1901, both through its reports and its accomplished work, believes that the charge of gross extravagance is without any foundation whatever; that the work of the board has been conducted with care and economy; that its work has been steadily progressive, and has tended toward the definite establishment of economical low limits for the various classes of school buildings.

"Resolved, That the interruption of this work by the removal of the board is an injury to the best interests of the schools and of the City of Boston."

THE BOSTON ARCHITECTURAL CLUB.

In the work planned to be accomplished in the approaching season of 1905-6 the club has endeavored to meet the growing demands put upon it, and maintain at the same time the work of former years. It is the desire of the club to make the classes free, or as nearly so as is consistent with their efficiency. Exhibitions of class work, in conjunction with similar work done elsewhere, will be held from time to time. Lectures will be given as usual, to be announced as soon as arranged. An exhibition is planned for this season, to be held in the Boston public library, where a fitting setting and atmosphere for such an exhibition will be obtained, and where ample space has been procured, so that the lack of room will not exclude exhibits of club members. An atelier system will be maintained with the planning classes forming the nucleus for the work to be done, the problems of the Beaux Arts Society being followed. M. Despradelle and Mr. Allen H. Cox are to be in charge. It is felt that club members should fully appreciate what the proximity of such great schools of architecture as Harvard and Technology means to Boston and the club, and what the possession of the Rotch scholarship means as an incentive to architectural students of Boston, the requirements for admission to which are well known. The club quarters will continue to be at 14 Somerset street, where they have been located during the past five years. Numerous improvements will be undertaken, making the rooms better fit for club gatherings. The establishment of a restaurant on the premises is a great boon to the club, lunch and dinner being served at reasonable prices.

WASHINGTON (D. C.) ARCHITECTURAL CLUB.

The Club Syllabus for 1905-06 has an interesting introduction from which the following is quoted:

"In arranging the work of the club for the coming year, it has been the aim to further direct the Club along the steady course of development that has characterized its progress in preceding years. A review of its past work shows that its progress has been largely due to the facilities created for bringing the members in closer touch through the mediums of competitions, lectures and meetings of a more or less informal character, and also to the Club's success in placing before the general public, through its annual exhibitions, the current work of the profession.

"Each year it becomes more apparent that one of the most important means of our Club's further development will lie in its ability and willingness to take its proper place among those of our city who are exerting their influence to direct the architectural evolution of this, the National Capitol.

"With this end in view, and in order to more fully awaken the interest of the public, it is proposed during the coming winter to inaugurate a short series of public lectures in conjunction with the local chapter of the American Institute of Architects.

"Several societies have recently been formed in this city to stimulate popular interest in directing the city's growth along proper lines and steps are being taken whereby our Club can co-operate with them.

"It is proposed to hold the usual annual exhibition in the early spring, the exact date being subject to such arrangements as can be made to avoid conflict with the exhibitions in other cities."

ONTARIO ASSOCIATION OF ARCHITECTS.

The schedule of charges and professional practice of the Association, as revised in August last, has for its more important provisions the following:

For full professional services the charges will be as follows:

1. For factories, 4 per cent.

For churches, schools, opera houses, office buildings, warehouses and public buildings, 5 per cent.

For residences, from 6 per cent to 8 per cent.

2. For alterations and additions a charge in excess of the above is made for measuring and plotting the existing building, and for the extra work of supervision; and the value of all old work becoming part of the new design is included in the amount upon which the commission is computed.

3. For selecting or purchasing mantels, stained glass furnishings, fittings, fixtures, carpets, wall papers, curtains, etc., and for giving general instructions for and supervising decorative work, 10 per cent.

4. For designing decorative interiors, mantels or other fittings, furnishings, from 10 per cent to 25 per cent.

5. For designing furniture, sculpture, monumental or other special work, the charge should be regulated by special circumstances and conditions.

6. The commissions above are reckoned on the total cost of the building when completed, including all fittings and fixtures of every kind necessary to render it fit for occupancy, and if any material or work used be already on the ground, or come into the possession of the owner apart from the contract, the value is to be added to the sum actually expended before the commission is computed.

OBITUARY.

Stephen Vaughn Shipman, veteran architect and designer of many public buildings, died at Chicago, November 12th, at the age of eighty years. He came to Chicago from Madison, Wis. He drew the plans for the old Academy of Music, Chicago, and superintended its construction. He designed the hospitals for the insane at Elgin and Anna, Ill., and at Mendota and Oshkosh, Wis. He was the architect for the Presbyterian Hospital in Chicago. The dome of the capitol at Madison and government postoffice at that place were designed by him. He was a colonel in the First Wisconsin Cavalry during the civil war.

ARTISTIC HARDWARE*—Continued.

WHEN all these conditions concur, the result is the closest approach possible in our modern wholesale and commercial production to the art work of ancient craftsmanship.

ABOUT 1894.

Happily, all these conditions concurred in the case of the pioneer in the production of artistic hardware in America, and, as a consequence, the work of this kind produced here within the present decade far surpasses in artistic merit that produced in any other country, excepting only France. France is our only competitor in quality; in cheapness of production, and, therefore, in general acceptability, there is no competition, so much larger is here the use of labor saving machinery, and so extensively has it been invoked by American manufacturers without detriment to the artistic quality of the product.

ABOUT 1895.

In range and variety there is no comparison between what may be seen in the catalogues or in the show rooms of the leading American manufacturers. The advantage on the part of the American manufacturers in variety of design comes in part from the much greater variety of architectural styles habitually employed by American architects. While in Europe the different rooms of a dwelling of much pretension may be finished in different styles, or in distinct modifications of the same national styles, there is no such variety, either in domestic or commercial architecture, as obtains in this country. Greek, Romanesque, Colonial, Moorish, several phases of the Gothic and several national varieties of the Renaissance, with several subdivisions of each, are all current modes of building to any one of which the interior fittings may be required to conform. Of each of these there are to be had the objects of which "Builders' Hardware" consists, designed and executed with archæological accuracy, and with high artistic skill. Considering the fewness and simplicity of these objects, escutcheon plates, knobs, handles, hinges, etc., the wealth and profusion of design which have been applied to them are wonderful. The choice is no longer, as formerly, between things plain and merely inoffensive, and things "fancy" and revolting. It is a choice between adornments that are positively attractive, and the sum of which constitutes one of the most striking and successful of American achievements in "applied art."

ABOUT 1895.

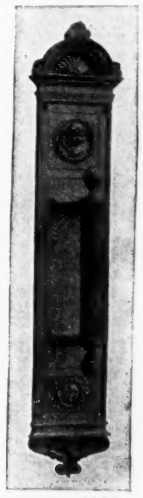
ABOUT 1895.

ABOUT 1896.

Although twenty years almost covers the period of this artistic development, it has had many phases. At the beginning of it the best that could be had in this way was a costly material treated with the utmost plainness. This refuge is still regarded as the only safe one in some parts of the United States, and, rather curiously, especially in Boston, where the artistic treatment of common subjects might have been expected, if anywhere, to receive a welcome. As a matter of fact, the West, which, as we have seen, was very largely concerned through its designers in the production of this phase of household art, is still much in advance of the East in its appreciation.

ABOUT 1897.

Costly materials, even the precious metals, are still employed, but even in these "the workmanship surpasses the material," and equally beautiful results are obtained from the humbler metals. The dictum of Mr. Ruskin, which we have quoted at the beginning of these remarks, has been triumphantly refuted by the work of American foundries. Bronze is still the metal most employed, but the adaption to ornamental hardware of the Bower-Barff process, which, if it does not render iron absolutely "rustless," at least very greatly retards and mitigates its oxidation, has given to cast iron a new availableness. This adaption was successfully made, after a series of experiments, and unpainted and confessed cast iron thereupon became a noble as well as a useful metal. In beauty of surface, in plasticity, in "capability of fine line and graceful shadow," it appears, for places and purposes to which its use is appropriate, the most beautiful of all. This peculiar beauty it owes to the "dead finish" which it is especially capable of receiving, and to the successful efforts which have been made to attain a characteristic treatment in design, as well as in the details of exectuion. * * * * * * *



ABOUT 1898.

Perhaps the greatest achievement in the treatment of bronze is the imitation, by chemical process, of the patina, which is the result in antiques of the slow verduring of time. The common imitations of this patina by pigment are untrustworthy and transient. The patina chemically produced is the thing itself, and is one of the highest achievements of the American development of artistic hardware, which, in turn, is one of the most important contributions to this country of the advancement of industrial art.

*Written at the author's suggestion, by the well known architectural critic, Mr. Montgomery Schuyler, of New York, and reproduced by permission from "A History of Architecture in New York," 1898.

*An article forming part of "A Treatise on Locks and Builders' Hardware," by Henry R. Towne, president of the Yale & Towne Manufacturing Company, and past president of the American Society of Mechanical Engineers. John Wiley & Sons, publishers. Price, $3.00. It is the intention of the publishers of the INLAND ARCHITECT to publish other selections from this work. The book is profusely illustrated and contains more than 1,100 pages, 4x6½ inches.

ARCHITECTURAL LEAGUE OF NEW YORK.

THE twenty-first annual exhibition, 1906, will be held in the building of the American Fine Arts Society from February 4th to February 24th, inclusive. Last day for return of entry slips—Saturday, December 30, 1906; last days for the reception of exhibits—architectural exhibits, Saturday, January 6th; all other exhibits, Tuesday and Wednesday, January 23d and 24th, 9 a. m. to 6 p. m.; press view—Friday, February 2d, 9. a. m. to 4 p. m.; annual dinner—Friday, February 2d, 7 p. m.; league reception—Saturday, February 3d, 8 p. m.; public exhibition—from Sunday, February 4th, to Saturday, February 24th, inclusive; hours—10 a. m. to 6 p. m.; 8 p. m. to 10 p. m.; Sundays—12 m. to 6 p. m.; public lectures—Wednesdays, February 7th, 14th and 21st; pay days—all Tuesdays and Thursdays; admission, 25 cents; all other days free; exhibits discharged—Monday, February 26th.

The subject of the medal competition is, A Small Chapel to St. Peter; Built on a Rocky Promontory Overlooking the Sea. The president's prize will be awarded to the best study for a mural painting. The Henry O. Avery prize will be given for the best design for A Wall Drinking Fountain in a City Street, to cost $500.

The medal of honor of the New York Chapter of the A. I. A. is for award for the best design of a building completed within five years of the date of exhibition in the annual exhibit of the Architectural League of New York.

HEINES & LA FARGE have designed a $20,000 aviary for Bronx Park, New York.

SEVENTH INTERNATIONAL CONGRESS OF ARCHITECTS.

THE Seventh Congress will be held in London July 16 to 21 1906. The subjoined are the subjects for discussion:

1. The Execution of Important Government and Municipal Architectural Work by Salaried Officials.

2. Architectural Copyright and the Ownership of Drawings.

3. Steel and Reinforced-Concrete Construction: (a) The general aspect of the subject; (b) with special reference to esthetic and hygienic considerations in the case of very high buildings.

4. The Education of the Public in Architecture.

5. A Statutory Qualification for Architects.

6. The Architect-Craftsman: How far should the architect receive the theoretical and practical training of a craftsman?

7. The Planning and Laying Out of Streets and Open Spaces in Cities.

8. Should the Architect have Supreme Control over other Artists or Crafstmen in the Completion of a National or Public Building?

9. The Responsibilities of a Government in the Conservation of National Monuments.

The executive committee will be glad to receive papers on any of the above subjects for presentation to the Congress. Papers may be written in English, French or German.

Each paper must be accompanied by an abstract of not more than 1,000 words.

Papers and abstracts must reach the executive committee before the 30th of April, 1906.

All communications to be addressed to the secretary of the executive committee, 9 Conduit street, London, W.

The general permanent committee of the Congress consists of eighty-six members, with eleven from England, fifteen from France, seven from Germany, six from Austria, four from Belgium, two from Canada, three from Denmark, six from Spain, five from the United States, seven from Italy, three from Mexico, three from Netherlands, four from Portugal, four from Russia, three from Sweden, three from Switzerland, and one from Turkey.

The permanent committee for the American section is as follows: W. L. B. Jenney, F. A. I. A., chairman; William S. Eames, F. A. I. A., vice-chairman; Francis R. Allen, F. A. I. A.; Glenn Brown, F. A. I. A.; George O. Totten Jr., A. A. I. A., secretary.

The American committee of patronage of the Seventh Congress consists of:

The Honorable the Secretary of State.
The Honorable the Secretary of War.
His Excellency the American Ambassador to Great Britain.
Honorable Francis C. Newlands, U. S. Senator.

John M. Carrere, Esq.	J. Pierpont Morgan, Esq.
Honorable Joseph H. Choate.	Henry Siddons Mowbray, Esq.
Frank Miles Day, Esq.	Robert S. Peabody, Esq.
Daniel C. French, Esq.	George B. Post, Esq.
Henry C. Frick, Esq.	Augustus Saint-Gaudens, Esq.
Cass Gilbert, Esq.	James Stillman, Esq.
John La Farge, Esq.	J. Knox Taylor, Esq.
Charles F. McKim, Esq.	Henry Walters, Esq.
Francis L. Millet, Esq.	Prof. W. R. Ware.

The Presidents of the following Societies:

American Institute of Architects.	National Academy of Design.
Architectural League of America.	National Sculpture Society.

Society of American Artists.

Members ex-officio:

Francis R. Allen, Esq.	William S. Eames, Esq.
Glenn Brown, Esq.	William Le Baron Jenney, Esq.

George O. Totten Jr., Esq.

A meeting of the permanent committee was held in Paris on December 15th in connection with work for the next Congress.

NEW PUBLICATIONS.

CHARACTER OF RENAISSANCE ARCHITECTURE, by Charles Herbert Moore; published by the Macmillan Company, New York; price, $3.00.

This book is in the nature of a companion volume to that standard work by the same author: "Development and Character of Gothic Architecture." The present work contains twelve plates in photogravure and about one hundred and forty text illustrations, most of the latter from drawings by the author. The book numbers 270 pages. The author regards the renaissance architecture as a superficial art, structurally untruthful and without consistent principles. He is in accord with the advanced present-day thought in regarding classic details as unfit for new uses. They belong to classic art alone. The student of architecture will find this book corrective of many false views of architectural design. It would be a valuable addition to any architect's library.

A HISTORY OF ARCHITECTURAL DEVELOPMENT, Vol. I, by F. M. Simpson, Architect, Professor of Architecture, University College, London; Fellow of the Royal Institute of British Architects; Sometime Professor of Architecture in the University of Liverpool; Royal Academy Traveling Student, 1884. Longmans, Green & Co., New York, Publishers. Price, $4.00.

This is the first of three contemplated volumes. Volume I treats of Ancient, Early Christian, and Byzantine architecture; Vol. II, Medieval, and Vol. III, Rennaissance. The two latter volumes are in press. The evident design of the editor has been to produce a work that, completed, shall trace the history of architecture from ancient times to the immediate present, and to treat this in such a way as to be of the utmost practical benefit to the student and practitioner.

Illustrations are given of the typical buildings of each of the racial works and of the historical styles. These reproductions are from photographs when possible. Further illustrations are from drawings of plans, section, elevation and details. In this way the design and arrangement of each building are fully shown. There are numerous illustrations of details of ornament and decoration.

It will be observed that the book is replete with illustrations of value. The text is very conveniently arranged for reference. The prominent divisions of each chapter are given a marginal heading which readily attracts the eye. The book numbers 260 pages, excellently printed and bound. It is written from the standpoint of the most modern research and contains lessons of much value to the student of architecture.

OUR ILLUSTRATIONS.

Y. M. C. A. building, Oak Park, Ill., Pond & Pond, architects, Chicago. The following views are shown: Exterior, reception room, reading room, gymnasium, social room. Plans also are given.

The Edward Wyman school building, St. Louis, Mo., William B. Ittner, architect. Exterior, elevation, plans and details are shown.

Second Church of Christ, Scientist, Kansas City, Mo., Frederic R. Comstock, architect, New York City. Exterior and interior views, section and plans are given.

The Gross Apartment building, Denver, Colo., Gove & Walsh, architects. Exterior and plan are shown.

The Rector office building, Chicago, Jarvis Hunt, architect. General exterior view and entrance detail are given.

Passenger station for Wabash Railroad, Pittsburg, Pa., Theo. C. Link, architect, St. Louis, Mo. The exterior and view in lower waiting room are published.

Residence for Arthur Farwell, Lake Forest, Ill., James Gamble Rogers, architect.

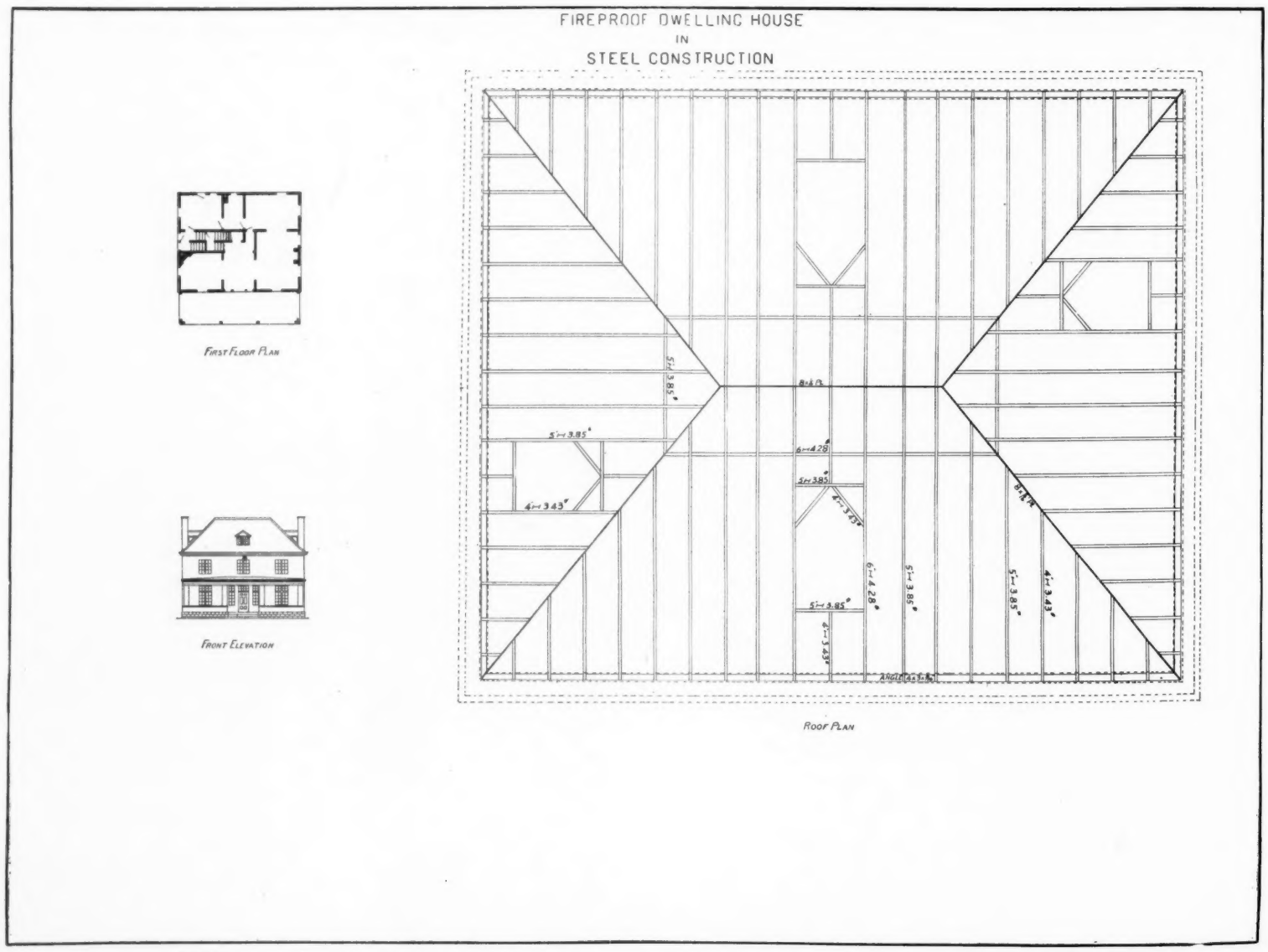
Residence for Eugene Cuendet, St. Louis, Mo., Barnett, Haynes & Barnett, architects.

Residence for C. M. Roe, Kenilworth, Ill., George W. Maher, architect, Chicago.

Summer Home for Hon. E. A. Hitchcock, Dublin, N. H., Mauran, Russell & Garden, architects, St. Louis, Mo.

VIEW IN READING ROOM, Y. M. C. A. BUILDING, OAK PARK, ILL.

POND & POND, ARCHITECTS, CHICAGO.



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IN ILLUSTRATION OF ARTICLE IN THIS NUMBER.

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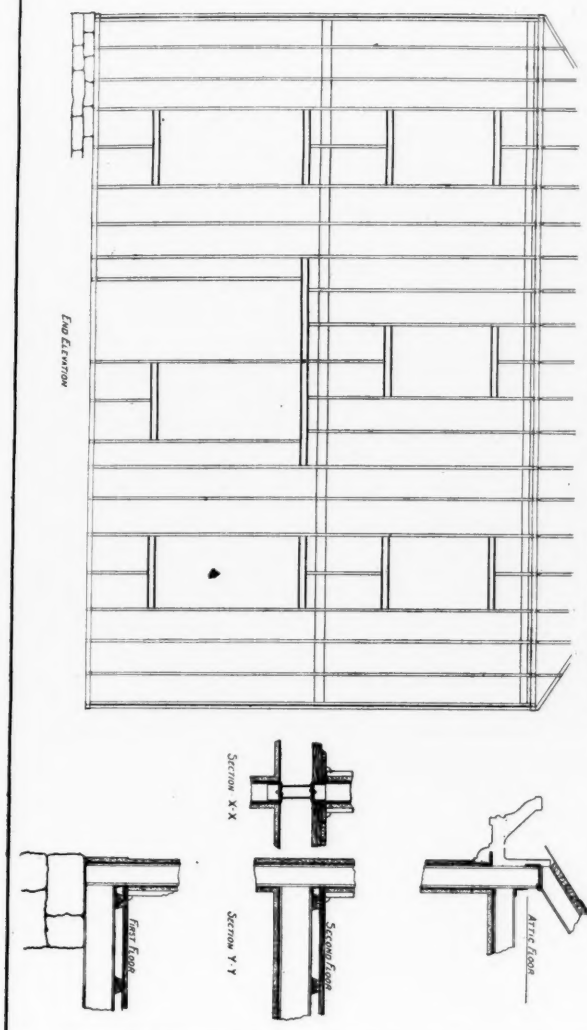
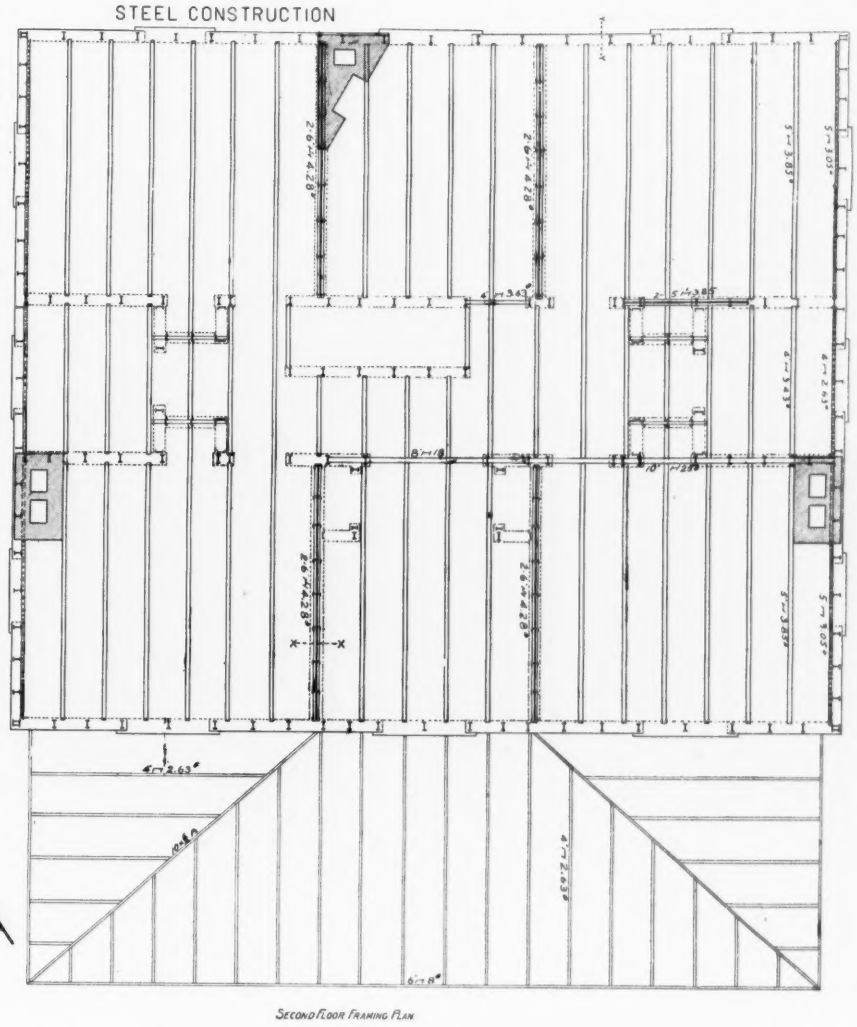
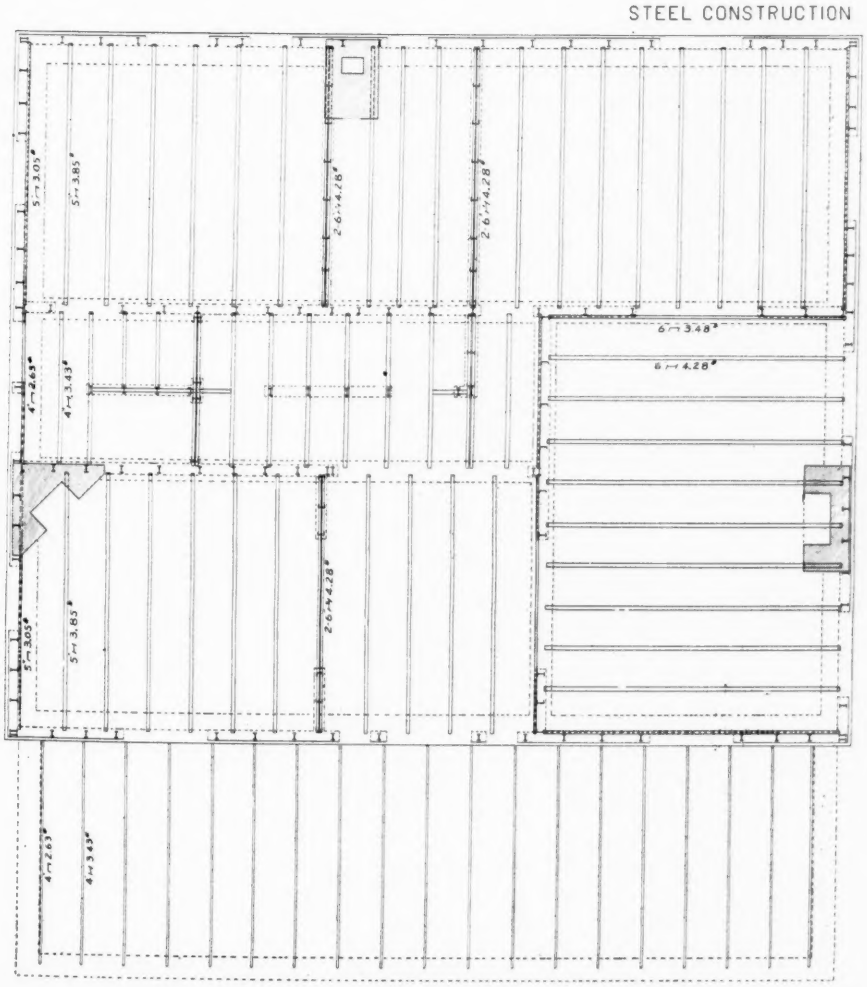
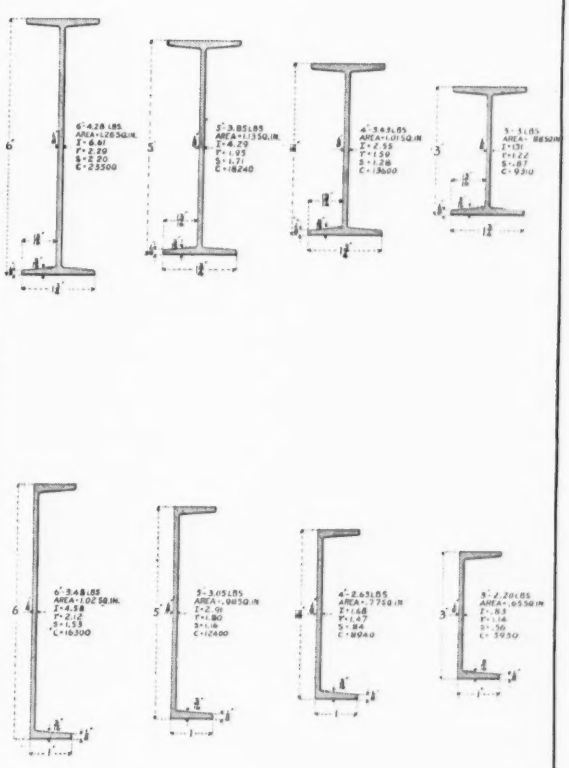
IN
STEEL CONSTRUCTION





FIREPROOF DWELLING HOUSE
IN
STEEL CONSTRUCTION





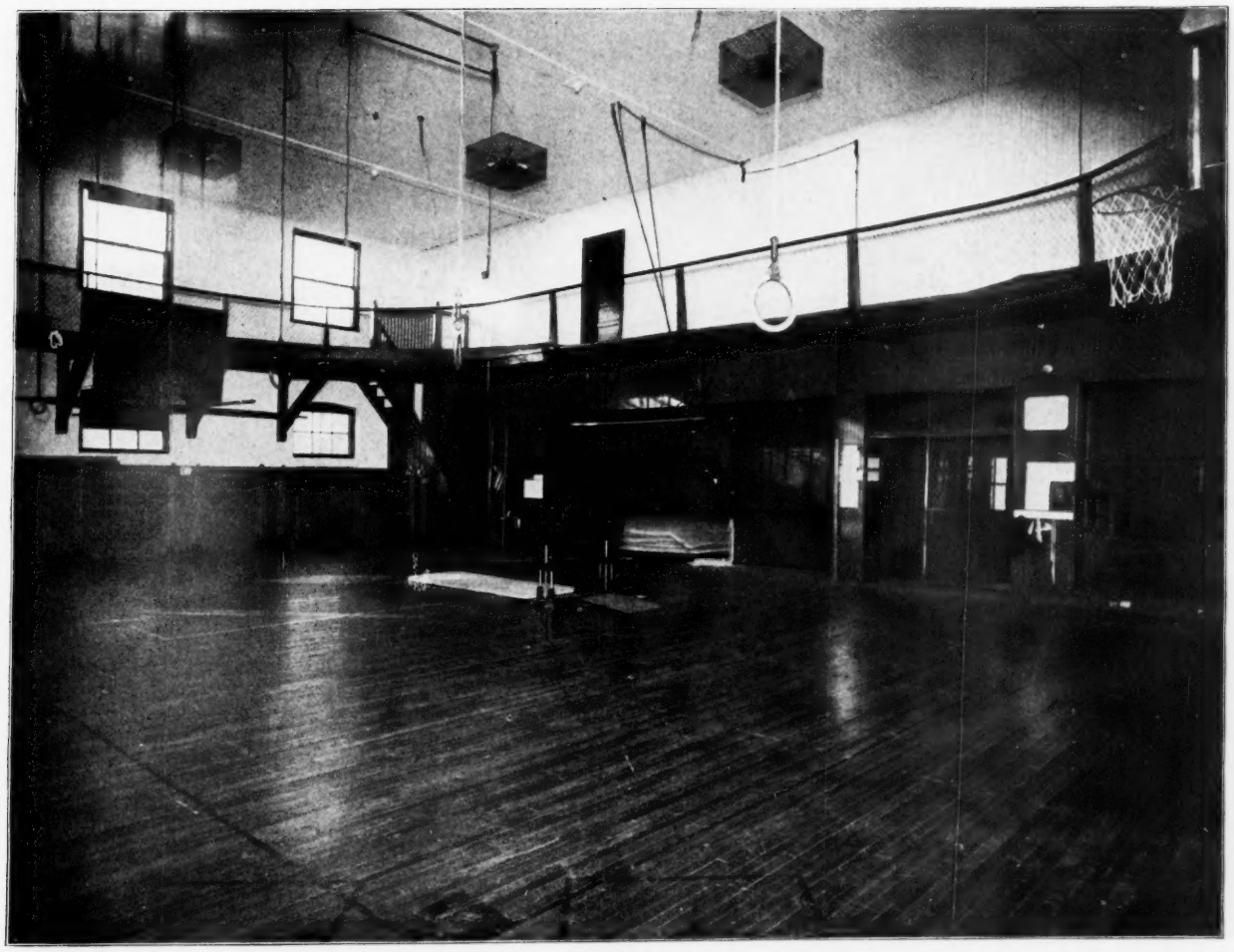
VIEW IN SOCIAL ROOM.

VIEW IN RECEPTION ROOM.

INTERIOR VIEWS AND PLANS, YOUNG MEN'S CHRISTI

POND & POND, ARCHITECT

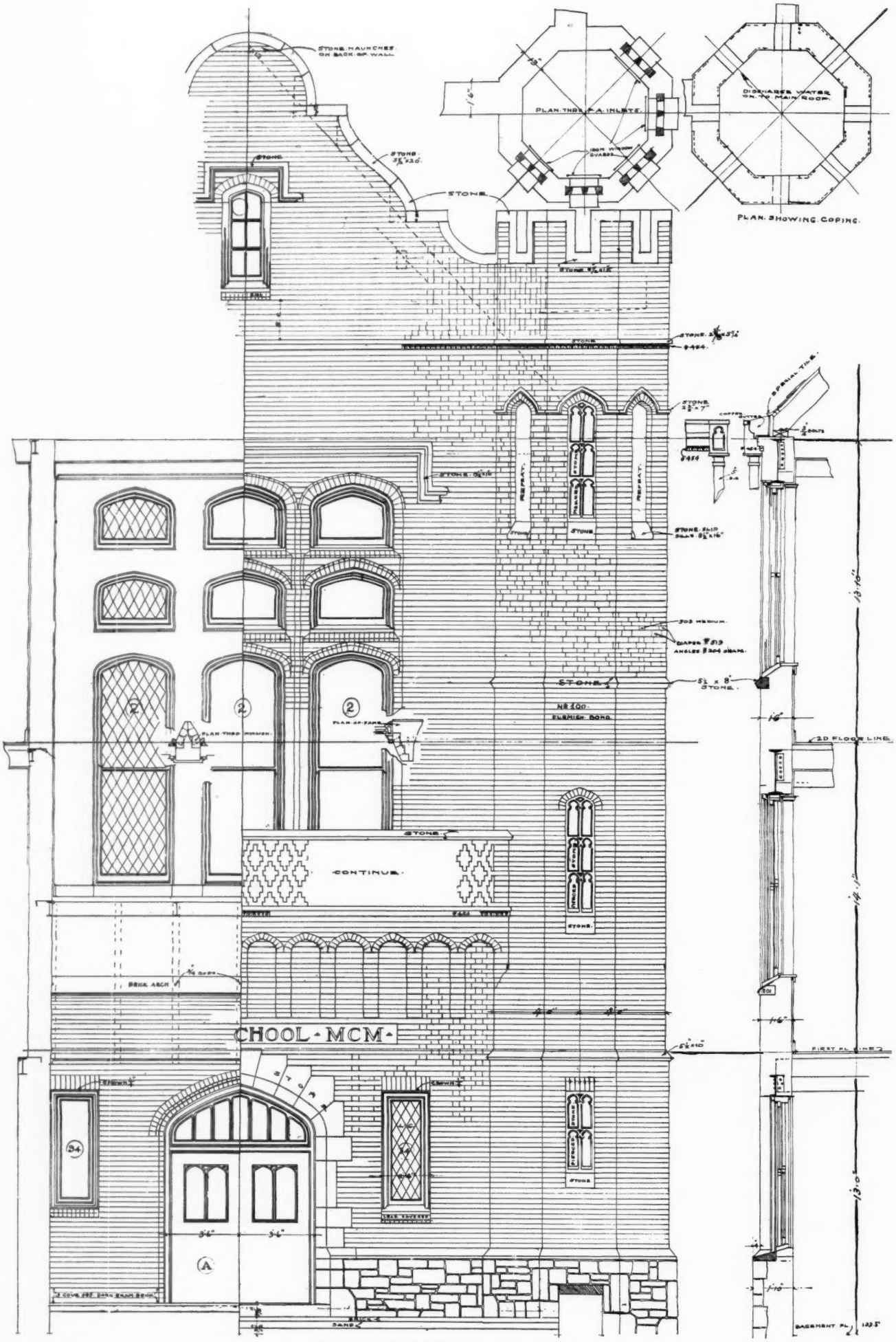
FLOOR PLANS.



VIEW IN GYMNASIUM.

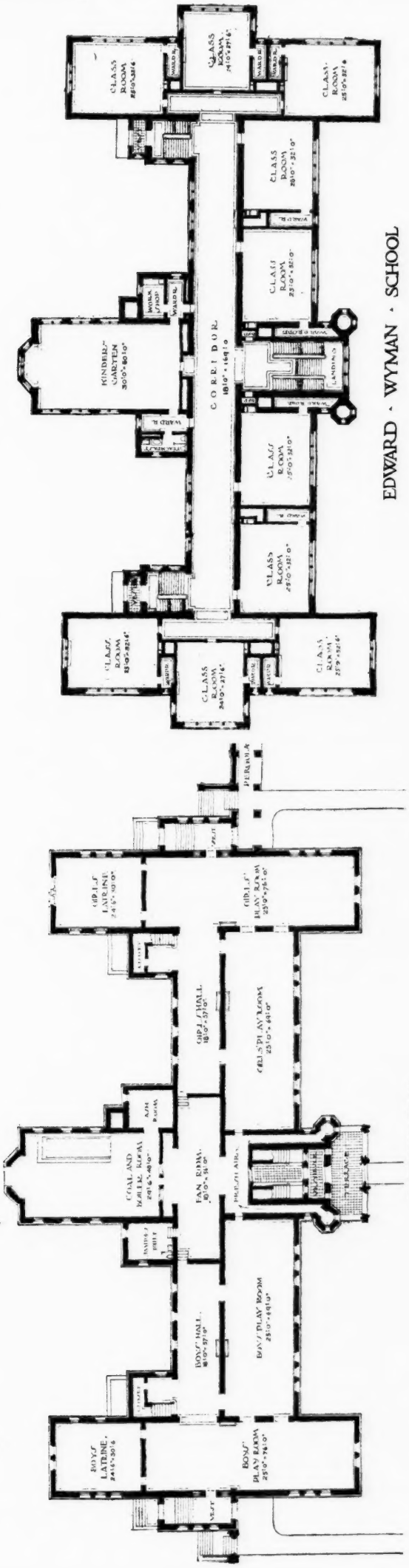
MEN'S CHRISTIAN ASSOCIATION BUILDING, OAK PARK, ILL.

POND, ARCHITECTS, CHICAGO.



DETAILS, CENTRAL PART, MAIN FRONT.

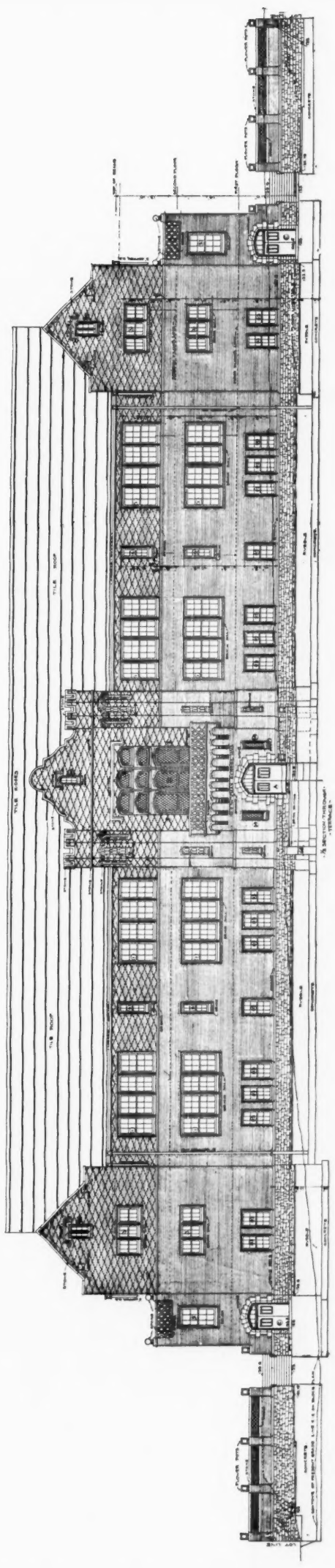
THE EDWARD WYMAN SCHOOL BU
WILLIAM B. ITTNER, A



EDWARD · WYMAN · SCHOOL

FIRST FLOOR PLAN.

BASEMENT PLAN.



ELEVATION, MAIN FRONT.

AN SCHOOL BUILDING, ST. LOUIS, MO.

AM B. ITTNER, ARCHITECT.

VIEW IN AUDITORIUM.

SECOND CHURCH OF CHRIST, SCIEN

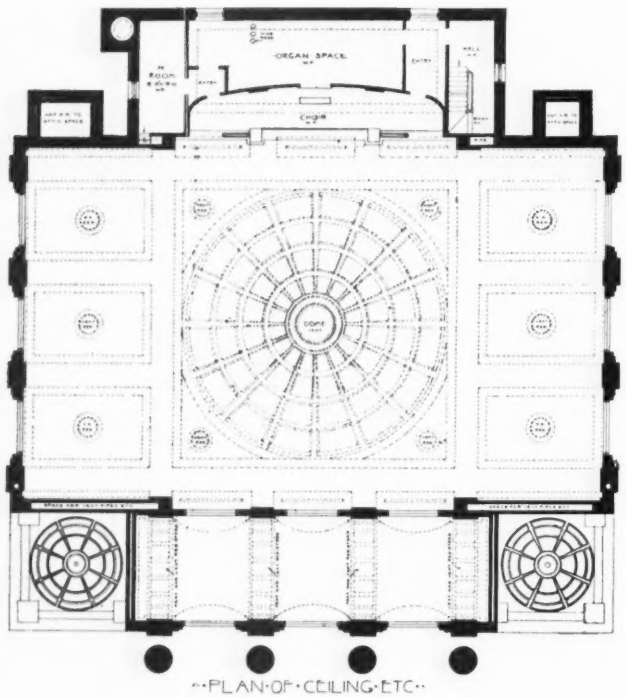
FREDERIC R. COMSTOCK, ARCHIT

VIEW TOWARDS ORGAN.

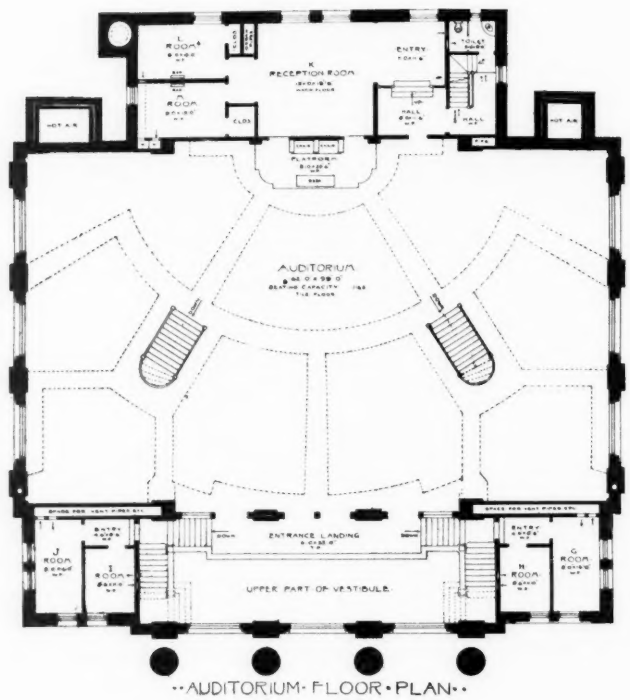
VIEW IN FOYER.

CHRIST, SCIENTIST, KANSAS CITY, MO.

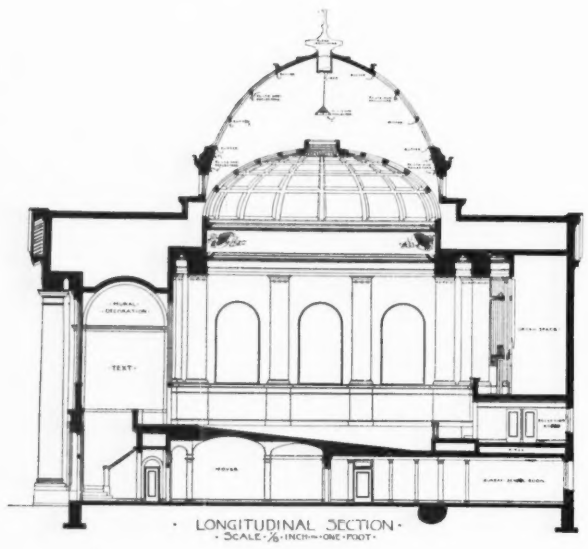
Comstock, Architect, New York.

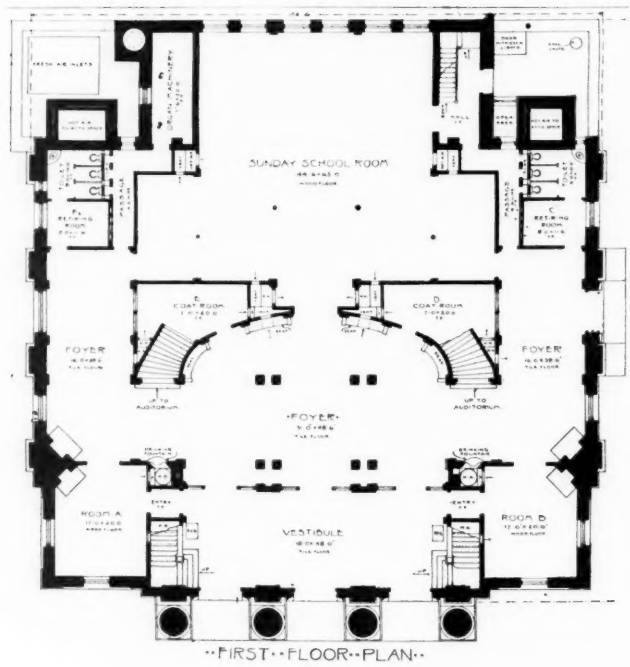


··PLAN·OF·CEILING·ETC··



··AUDITORIUM·FLOOR·PLAN··

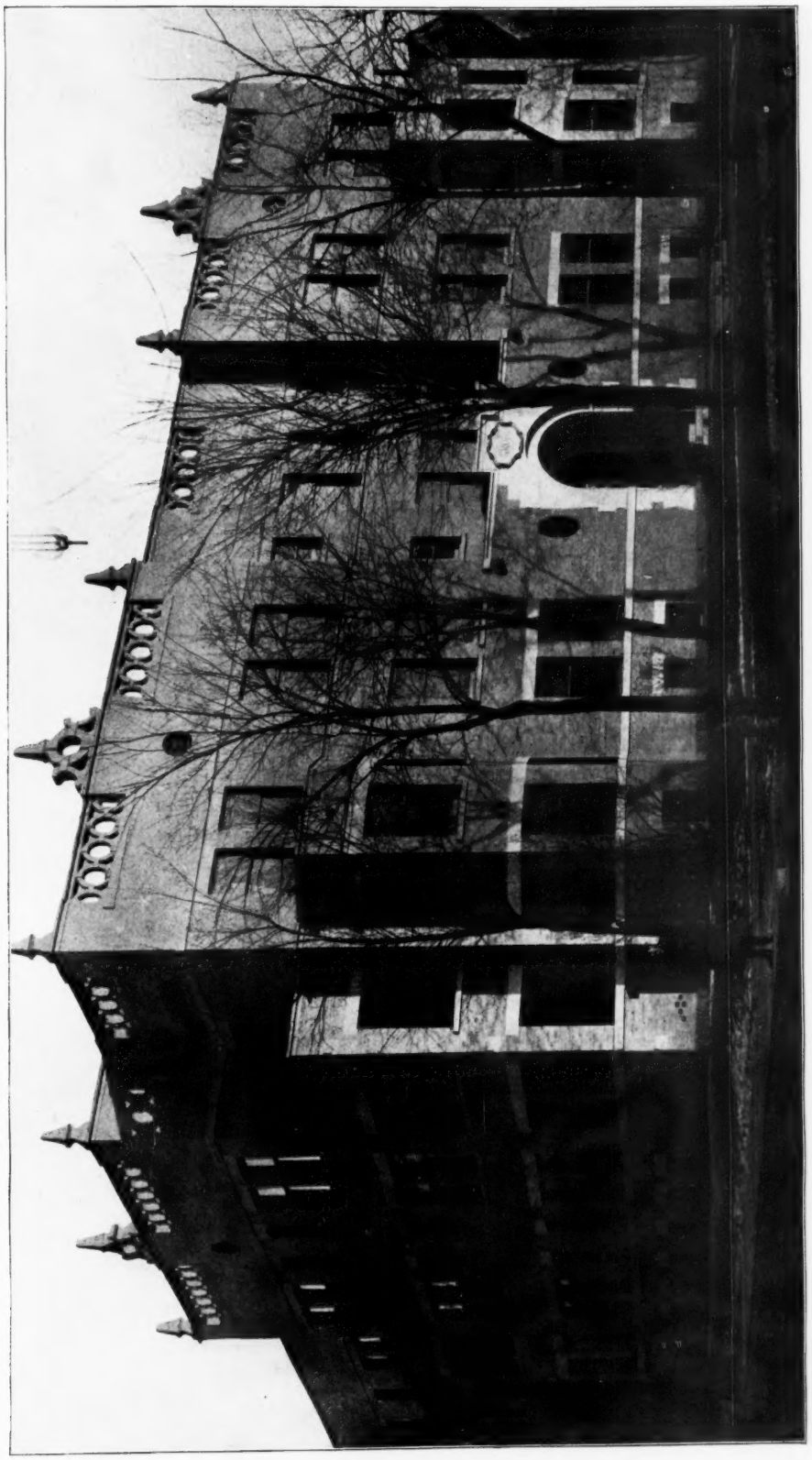




··FIRST··FLOOR··PLAN··

SECTION AND PLANS, SECOND CHURCH OF CHRIST, SCIENTIST, KANSAS CITY, MO.

FREDERIC R. COMSTOCK, ARCHITECT, NEW YORK.



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GEORGE W. MAHER, ARCHITECT, CHICAGO.

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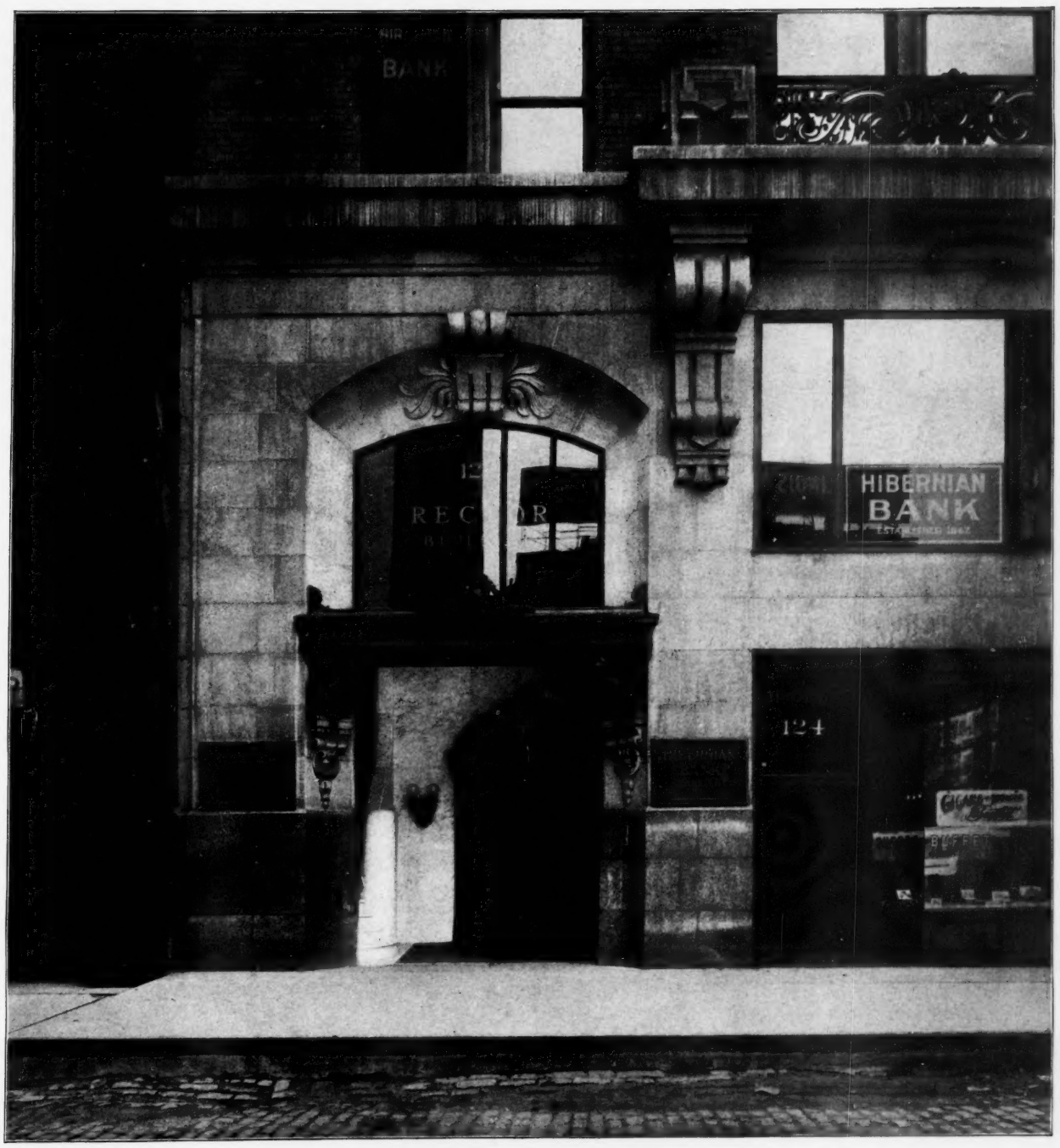
POND & POND, ARCHITECTS, CHICAGO.

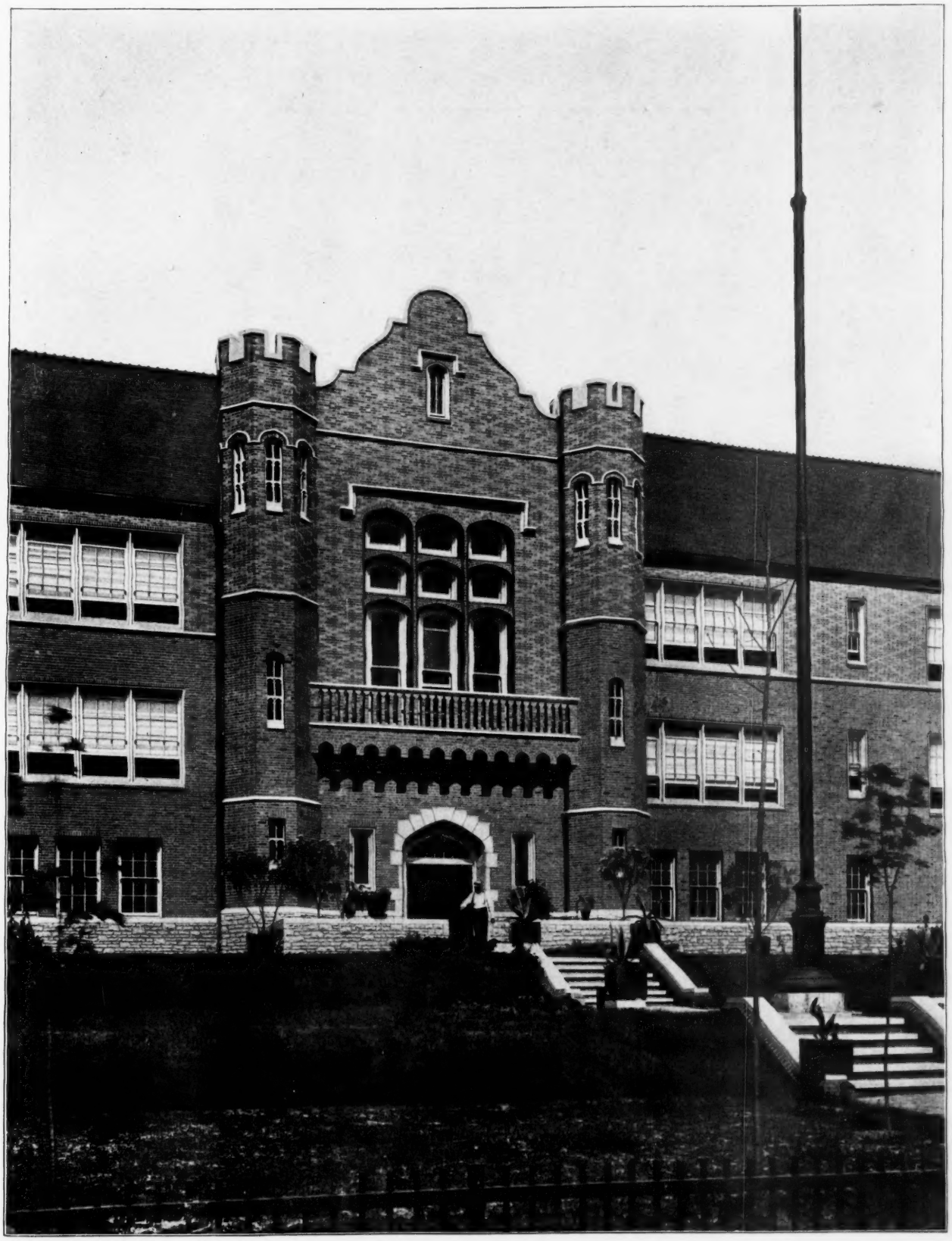
THE RECTOR BUILDING, CHICAGO

Jarvis Hunt, Architect



ENTRANCE DETAIL, THE RECTOR BUILDING, CHICAGO

Jarvis Hunt, Architect



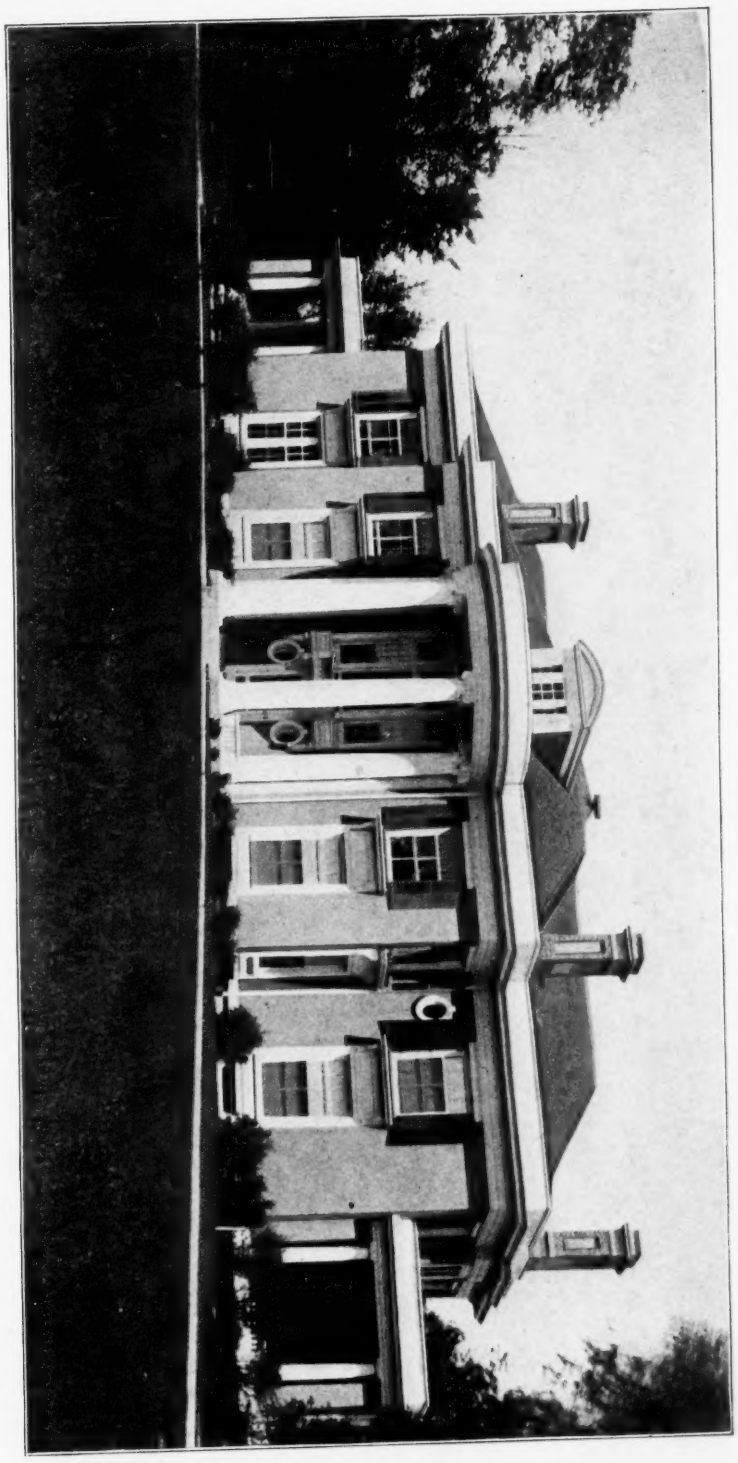
THE EDWARD WYMAN SCHOOL BUILDING, ST. LOUIS, MO.

William B. Ittner, Architect.

HEAD HOUSE, WABASH PASSENGER STATION, PITTSBURG, PA.

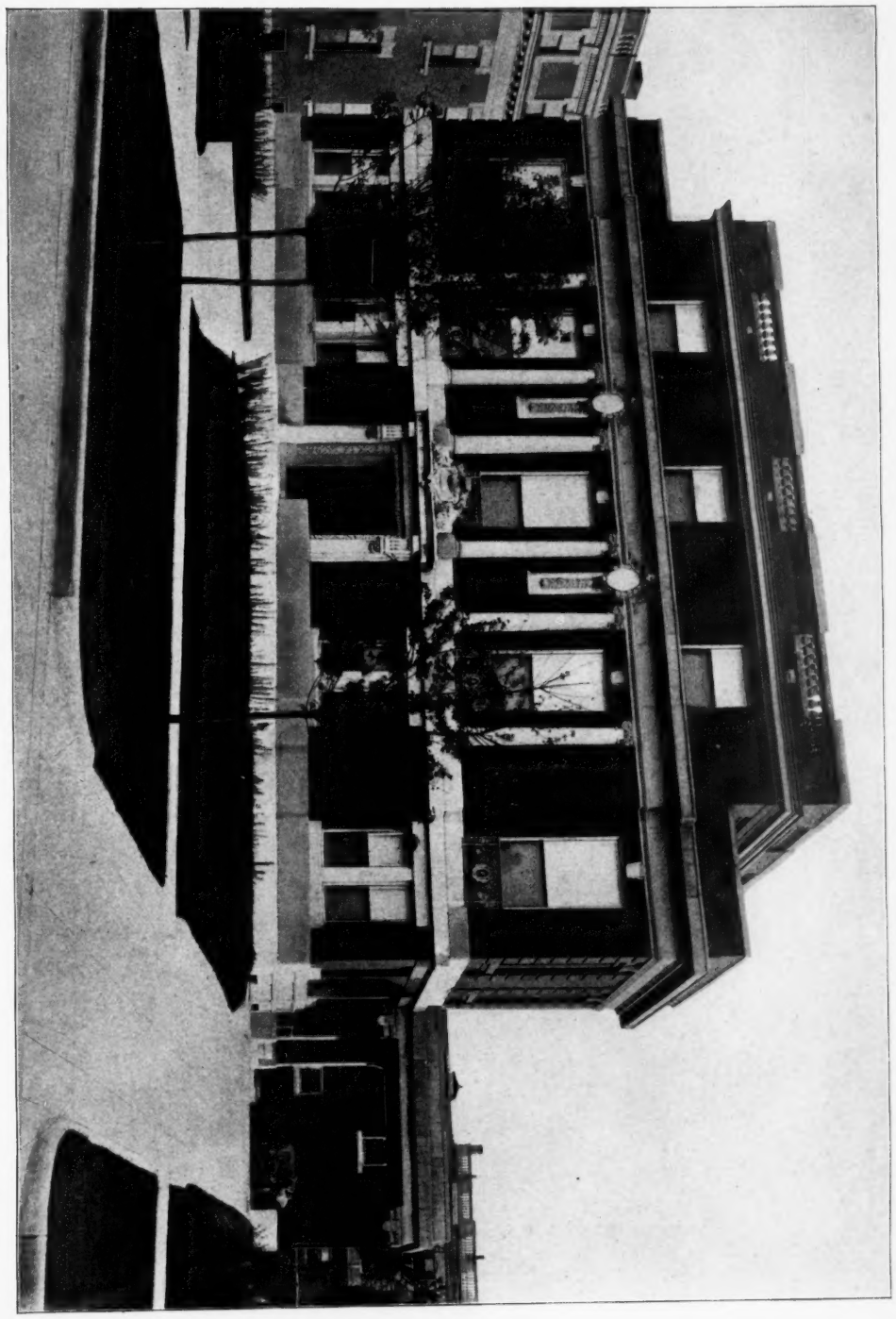
THEO. C. LINK, ARCHITECT, ST. LOUIS.

VIEW IN LOWER WAITING ROOM, PASSENGER STATION, WABASH RAILROAD, PITTSBURG, PA.
THEO. C. LINK, ARCHITECT, ST. LOUIS, MO.



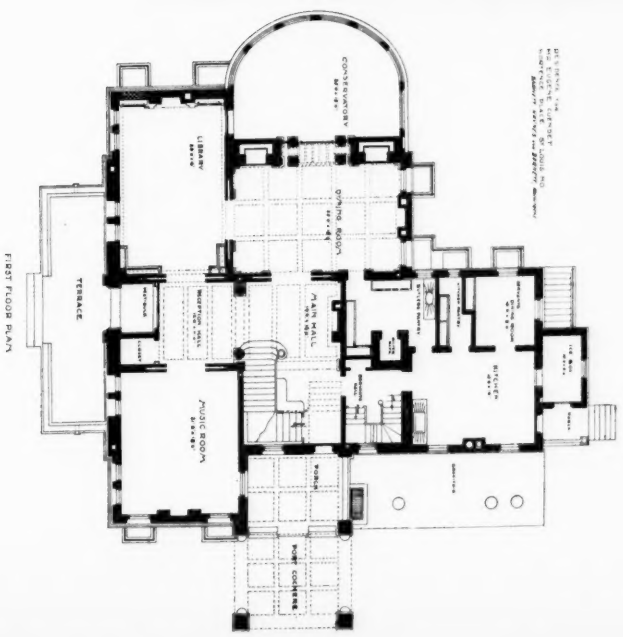
RESIDENCE FOR ARTHUR FARWELL, LAKE FOREST, ILL.

JAMES GAMBLE ROGERS, ARCHITECT.



RESIDENCE FOR EUGENE CUENDET, ST. LOUIS, MO.

BARNETT, HAYNES & BARNETT, ARCHITECTS.



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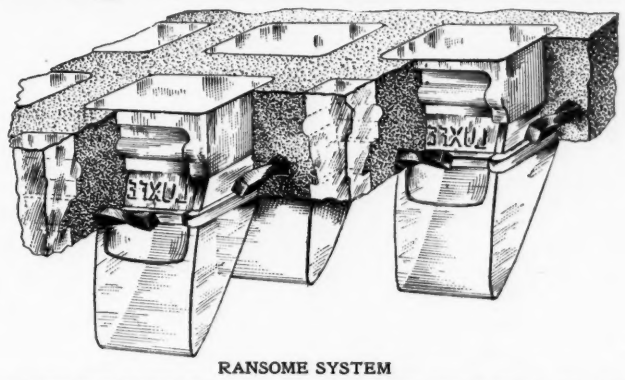

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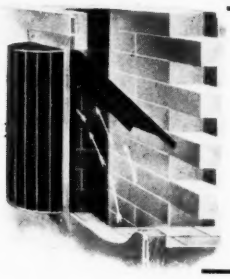

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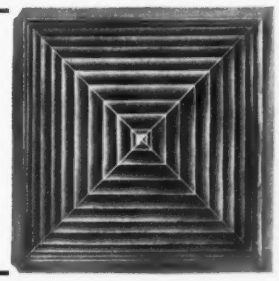

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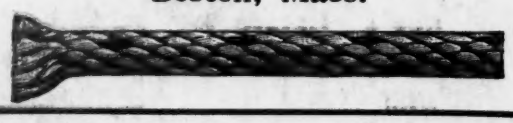

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